

SUSTAINABILITY REPORT 2021



*A bioindustry on the
right side of the future.*

THE NAVIGATOR COMPANY

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1. OVERVIEW

1.1 REPORTING APPROACH

This Sustainability Report is designed as a response to The Navigator Company's Responsible Management Agenda (known as the "2030 Agenda"), announced in 2021. It provides information on the Company's performance in relation to its 2030 Agenda, addressing both the central focus, a Responsible Business, and the three strategic action areas - for Nature, for Climate and for Society. These action areas cover a total of 12 material topics, identified during the materiality review conducted in 2019 and 2020. This means they reflect the key issues as identified by stakeholders. At the same time, this report publishes, for the first time, the Company's performance on the 15 commitments made in the 2030 Roadmap, published in the 2020 Sustainability Report.

Navigator's experience of sustainability reporting has enabled it to make the transition to the new Global Reporting Initiative framework in this year's report, implementing GRI universal standards 1, 2 and 3, published in October 2021, one year ahead of the required adoption date. This report is therefore GRI compliant, conforming to all the principles and rules required by the Standard. The 2021 Sustainability Report also addresses the impact of Navigator's 2030 Agenda on the United Nations Sustainable Development Goals, aligning the Company's commitments with this framework. In line with the growing importance of stakeholders in the pathway to business sustainability, the indicators reported under the GRI standards have been aligned with the metrics presented in the framework published in 2020 by the World Economic Forum (WEF): *Measuring Stakeholder Capitalism Towards Common Metrics and Consistent Reporting of Sustainable Value Creation*. In another important development, Navigator has signed up to the Science Based Targets initiative and submitted its Scope 1, 2 and 3 emissions reduction targets, adding further to the reliability of its targets for climate action. This step is consistent with Navigator's commitment to adopting best reporting practices, by increasing the rigour and transparency of disclosure of Sustainability information. Lastly, attention is drawn to our publication of European Taxonomy information, in relation to eligible activities under this regulation and the respective indicators.

In the course of 2022, The Navigator Company intends to integrate the TCFD recommendations into corporate strategy and risk management processes, seizing the opportunity to assess the potential financial and strategic implications of climate change and to develop appropriate responses.

Recognition of ESG performance

Navigator is aware of the importance of being included in ratings that assess its ESG - Environmental, Social and Governance - performance, not only because this allows its activities to be analysed on these criteria, but also because it is possible to make

comparisons with its peers. Even more importantly, this can identify areas for improvement.

Sustainalytics



Score: 14.3
Ranked 3rd out of 81 Paper & Forestry companies

CDP Climate and Forest



Score: B
A score of B in its first response to CDP Forest, and the same score for CDP Climate.

Period, scope and limits of this Report

This Report refers to activities during 2021 (1 January to 31 December 2021). It includes the Group's activities that contribute to producing and selling pulp and paper and its dedicated energy production operations. All indicators are consolidated, except those for Mozambique, where activities are described over the course of the document, wherever applicable.

Review of information

The information contained in this report has been verified by KPMG, which has drawn up an independent assurance report. The KPMG report may be consulted on page 141.

Opinions and contact details

Your opinion is important to us. We would be grateful if you would complete the feedback questionnaire for this document available on the Company website: thenavigatorcompany.com.

For any enquiries, please contact:

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1.2 NAVIGATOR IN 2021

A RESPONSIBLE BUSINESS



Creating Sustainable Value

3rd place in Sustainalytics rating

out of total of 81 companies in Paper & Forestry sector

€ 1.49 Billion distributed

in salaries, suppliers, community, and others

Includes approx. **€ 90 Million** in tax

FOR NATURE



Sustainable Forestry Management and Conserving Biodiversity

71%

certified wood purchased

78% wood suppliers with certified chain of custody

€ 4.3 M investment in forest fire prevention and firefighting

Ethics, Transparency and Inclusion

Ethics and Compliance Training Programme for Employees

Risk Management and Business Continuity

Launch of new

Packaging segment

Innovation, Technology and R&D

25% gain in yields from seeds produced at RAIZ

2 new tissue products on market



Responsible Use of Resources

Reduction of 6.7%

specific water use in relation to 2019

Reduction of 0.9 GJ/t primary energy consumed

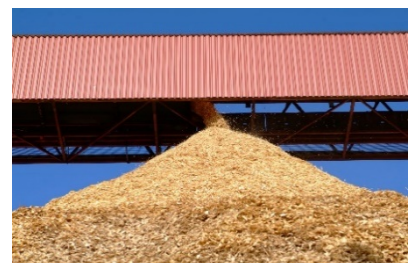


Bioproducts

New Pilot Laboratory for Biorefineries and Bioproducts

8 patents filed out of total of 18

Winner of 2021 Tecnicelipa Prize



Circular Economy

88%

waste recovered

84%

water returned to environment

2x

volume of sand for construction industry

FOR CLIMATE



Climate Change and CO₂ Sequestration

Reduced by 30%
in direct CO₂ emissions

in relation to 2018

77%

renewable energy

5.9 M t CO₂

sequestered in forests

Participation in SBTi

with reduction targets for
scopes 1, 2 and 3



FOR SOCIETY

Talent Management and Developing Human Capital

3,150 Employees*

41 h/Employee

training in a total of

more than 124,000 hours

38% Employees

with **development plans**

90 vocational internships



Health, Safety and Well-being

**Overall frequency rate
of 6.6**

**Work Ability Index
(WAI): 38.9**

> 800 Employees

Analysis of state of health



Stakeholder Engagement and Community Relations

8,000 children involved
in Give the Forest a
Hand

10,000

forestry producers
impacted

19 Academia sessions
and **18 authored**
articles on Florestas.pt

Launch of **Forest of
Knowledge** project

More than € 5.5 M

invested in Social
Development Programme in
Mozambique

since 2015



* Includes Employees of Portucel Moçambique. For the purposes of this report, we present consolidated indicators for 3,021 employees.

1.3 MESSAGE FROM THE CHAIRMAN

At times of crisis and instability such as those we are living through, our responsibility for building a shared sustainable "home" is increasingly important. This applies equally to nations, organisations, communities and individuals. We all have a role to play in transforming our society. A positive transformation that defends the values of nature conservation and respect for Human Rights.

At The Navigator Company, we have a clear awareness of the importance of adopting high ethical standards, able to respond to the social and environmental challenges faced by the world and by businesses. This is the context in which our Company has adopted plans for decarbonisation. It is significant that, in 2021, we set ourselves science-based targets for cutting GHG emissions, by signing up to the Science Based Targets initiative (SBTi), and investing in products that substitute fossil-derived materials, such as our new gKraft brand of packaging papers.

By adopting a Corporate Purpose and a 2030 Responsible Management Agenda aligned with the United Nations Sustainable Development Goals, the Company has established commitments and goals for 2030 in the three strategic action areas defined in its Agenda: Nature, Climate and Society.

This Sustainability Report provides readers with a picture of how Navigator is responding to the commitments made, setting out its performance on ESG (Environmental, Social and Governance) criteria, currently regarded by the financial community and other stakeholders as a metric of the Company's progress in the field of Sustainability.

Staying abreast of best international practice, Navigator continues to be active in the World Business Council for Sustainable Development (WBCSD), the world's leading organisation in the area of business sustainability, where it is represented on the Executive Committee and in the Forest Solutions Group (FSG), a working group devoted to forestry topics.

As a member of the WBCSD's FSG, Navigator has worked on a number of initiatives, such as the inclusion of a case study, that illustrated the supporting document for the United Nations Decade on Ecosystem Restoration, and preparation of a video on the topic of "Choose Sustainable Forest Products", designed to raise awareness of the role of planted forests and forest products in the global agenda for sustainable development. In another important development, the forestry sector, led by the FSG, took the opportunity offered by COP26 to unveil its Roadmap for transition to a net-zero economy.

At home, Navigator currently chairs the management board of BCSD Portugal and is a signatory of the Charter of Principles, a document uniting Portuguese companies around shared commitments to sustainable development for Portugal.

It is also relevant to note that, in 2021, Navigator was joint organiser and a participant in the "Acting for Nature" round table at the 2021 Annual Conference of BCSD Portugal, devoted to the topic of "Sustainability: challenges for the decade 20-30". This was an opportunity to promote the Company's stance and contribution to nature and biodiversity conservation through sustainable management of woodlands.

The Navigator Company's involvement in leading Sustainability organisations at a global level and the commitments made in its 2030 Agenda allow us to assert with confidence that we are helping to make an impact in several areas of our society, on issues of a social, environmental and economic nature alike.

RICARDO PIRES

Chairman of the Board of Directors, The Navigator Company

1.4 MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

The year 2021 was very important for Navigator as we released our Corporate Purpose and our 2030 Responsible Management Agenda. Based on a wide-ranging stakeholder engagement exercise, this agenda was developed collaboratively and identifies the most relevant issues for the Company's future.

The commitment expressed in The Navigator Company's purpose reveals how we position ourselves as a business venture. By asserting that 'it is people, their quality of life and the future of the planet that inspire and motivate us', we aspire to "Create Value Responsibly", the core concept in our 2030 Agenda.

Although 2021 presented a series of challenges, not least in higher cost factors, such as raw materials, energy and logistics, breakdowns in supply chains and the continuing pandemic, Navigator and its people demonstrated great resilience and the ability to act collectively and with determination. I would therefore like to highlight the central thrust of our action in the three strategic areas of our 2030 Agenda, which are in line with the response to the top three risks classified as most severe by the World Economic Forum ("The Global Risks Report 2022"): "climate action failure", "extreme weather", and "biodiversity loss".

Nature

Planted forests are fundamental to the transition from a linear, fossil economy, based on finite resources and hostile to the climate, for which there is no future, to a sustainable circular bio-economy, based on renewable, recyclable and biodegradable forest products, beneficial to nature and climate-neutral. In view of this, Navigator has stepped up its efforts to work with others to promote sustainably managed and certified woodlands, helping to create forests that are more resilient and offer better yields. An example of this is the Premium Programme which, from 2018 to 2021, involved more than 250 landowners over an intervention area of more than 4,500 hectares. This provides real support for producers in several areas, ranging from the preparation of forestry plan and recommendations of technical silviculture options, to good practices in forestry operations, resulting in positive environmental and social impacts.

Equally important was the work done to consolidate the knowledge sharing platform at Florestas.pt, a project coordinated by RAIZ, our forestry and paper research institute, as part of its efforts to disseminate technical and scientific expertise in the field of forestry. A total of 19 sessions were held in 2021 with academics, and 18 authored articles were published. Also, in the area of education and knowledge, RAIZ and The Navigator Company have joined forces with the Calouste Gulbenkian Foundation to launch the Floresta do Saber (Forest of Knowledge) project, with support from the UNESCO National Commission in Portugal. The aim is to educate,

empower and raise public awareness of the importance of woodlands, sustainability, and the forest-based circular economy, with a special emphasis on reaching young people. These initiatives are in line with our Purpose of sharing our knowledge, experience, and resources with society in the search for a better future.

In its R&D activities, RAIZ has remained focused on efficient use of resources throughout the value chain, from the production of improved seeds, in the forestry sector, to optimising the use of wood and water in the production process. Work was completed in 2021 on setting up a new seed orchard, which will make it possible to increase production sixfold, as from 2024, and provide the Portuguese market with more than four million improved plants each year.

An important aspect of Navigator's management model has to do with biodiversity conservation. More than 800 species and sub-species of flora and 245 species of fauna have been identified in woodlands under the Company's management; around 12% of this area comprises conservation interest zones and an area of 4,075 hectares is classified as protected habitat in the Natura 2000 Network. Progress was made in 2021 on several restoration projects designed to maintain or improve the state of conservation of natural and semi-natural habitats, over an area of around 53 hectares.

In line with our commitment to make responsible use of resources, a reduction of 6.7% was achieved in specific water use in industrial operations, in relation to 2019, the baseline year for the Programme for Reducing Water Use being implemented in the Company, and measures taken in 2021 under the Corporate Energy Efficiency Programme resulted in improved energy performance at the four industrial complexes. The fact that the Company recovers 88% of all waste generated also demonstrates our commitment to circularity.

Climate

We have adopted a pro-active approach to finding solutions to the climate challenge and maintained our focus on the Roadmap to Carbon Neutrality, which will enable us to make an 86% cut in direct CO₂ emissions (scope 1) by 2035, in relation to 2018. In 2021 alone, emissions were slashed by 30.1%. This was achieved by implementing our plan for investment in technologies using renewable energy sources, such as forestry biomass and solar. A significant development was the start-up of the new biomass boiler at Figueira da Foz, making this the Group's first integrated pulp and paper mill to generate power entirely from renewable sources. Another important step was our investment in solar power plants, which now have total rated capacity of approximately 7 MW. By way of illustration, we achieved an overall reduction of 57% in CO₂ emissions at the Figueira da Foz Complex.

Our clear commitment to contribute to a low carbon society, by reducing GHG emissions, on the basis of the latest climate science, also lay behind an ambitious project to analyse our carbon footprint, culminating in our decision to sign up to the Science Based Targets initiative (SBTi) at the end of the year. At the same time, the Company waived the two-year period permitted for presenting its targets, submitting them immediately on signing up to the initiative. The science-based near term targets submitted for scopes 1 and 2 seek to respond to the plan established in the Paris

Agreement for a temperature rise of not more than 1.5°C, and in the case of scope 3 for an increase of well below 2°C, in relation to pre-industrial levels.

Society

The most crucial capital investment of an organisation is in its human capital, its **people**, in their skills and professional development. This is what lies at the heart of Navigator's Purpose and strategy and can be seen in the action plans we have been developing and implementing. An important development here was the new careers plan for technical operatives, applying to 1,958 Employees and providing for pay at more than 40% above the industry average. Also, under this package, more than 500 training initiatives were organised in different areas over the course of 2021, with total investment of 1.24 million euros in the Training Plan.

At this very demanding time for all of us, as a result of the pandemic situation, we also focused on improving Employee benefits, including contributions to education expenses, health and life insurance, as well as extending sick pay cover. These benefits are equivalent to 1.25 average salaries.

Several programmes have been designed to support local communities, in the fields of education and rural development, with a special emphasis on educating people about the value of sustainable forest management and certification, contributing to better woodlands. By way of example, the "Dá a Mão à Floresta" (Give the Forest a Hand) roadshows reached 8,000 children in 2021, some 10,000 forestry producers experienced the impact of the Forestry Producers project and more than 5.5 million euros has been invested to date in the Social Development Programme in Mozambique.

All this progress in developing a sustainable business has been underpinned by substantial investment in R&D and innovation. Navigator and other companies in the sector are involved in promising R&D projects to generate a wider range of tree-based bioproducts, some of them substituting products currently obtained from petrochemicals. In the near future we will have biofuels for road vehicles, ships and aircraft, as well as food supplements and bioactive compounds for nutraceutical use, including prebiotics, to give just a few examples. Work has started on building the new Pilot Laboratory for biorefineries and bioproducts; this new facility will help boost new forest-based ventures.

As in the past, Navigator has a vision of growth based on the pursuit of innovation and differentiation. We want to diversify while still investing in tissue, as well as to create and then consolidate a packaging business. We are developing innovative solutions for the hygiene and health market, such as tissue products with additives, including lotions, perfumes, softeners, antibacterial and antiviral substances, and repellents. And in 2021 we launched gKraft, a new brand of packaging papers.

At the same time, we are developing our operation in Mozambique, which has started out by producing timber for sale, a venture we see as a firm platform for growth in the long term. Also taking a long-term view, we are working on several other innovative projects to explore ideas in the fields of biofuels, green hydrogen and biocomposites.

The Company is leading an agenda called "From Fossil to Forest", which includes investing in research under the Recovery and Resilience Plan. The main focus is on developing a set of packaging solutions centered on the gKraft brand launched in 2021. Alongside this, we are producing microfibrillated cellulose to develop mechanical properties in these papers, such as functional barriers (against fats, liquids, and other substances).

The gKraft brand responds to our decision to diversify and expand the Group's business portfolio and offers a clear example of this strategy. This is one of the most important launches in Navigator's recent history, because it shows how innovation is necessarily the way forward when we seek sustainability that is lasting and relevant to people's lives and their future. In this case, by offering an alternative that makes it possible to reduce the use of fossil-based materials, such as plastic, and replacing them with renewable and sustainable forest-based materials, like the paper featured in these new packaging solutions.

I firmly believe that we are a bioindustry on the right side of the future.

ANTÓNIO REDONDO

CEO, The Navigator Company

1.5 OUR BUSINESS VENTURES

The Navigator Company is an integrated forestry, pulp, paper, tissue, sustainable packaging solutions and bioenergy producer, with operations based at state-of-the-art plants using cutting edge technology, making them a global benchmark. It is recognised as setting worldwide standards for quality in its sector.

Navigator in the World (<http://en.thenavigatorcompany.com/Institutional/The-Company-around-the-world> QR CODE)

The Navigator Company produces pulp and paper from forests planted exclusively for this purpose. Every year, 12 million young trees start their lives in Navigator's nurseries. These nurseries – the largest in Europe – produce 135 different species of trees and shrubs. Many of these are not economically viable but are funded by the Company in order to conserve biodiversity and ensure the survival of species.


The Group operates a vertically integrated forestry business, with its own forestry research institute, and is responsible for planting vast areas of woodlands in mainland Portugal (1.2% of the country's area), 100% certified under the FSC® and PEFC schemes (*). The Company boasts annual production capacity for 1.6 million tons of paper, 1.6 million tons of pulp, 130 thousand tons of tissue and 2.5 TWh of renewable energy. In 2021, 66% (vs. 60% in 2020) of the energy produced by Navigator at its four industrial complexes was obtained from biomass, making it the leading operator in this sector, with around 35% of all power used in Portugal from this ecological, non-fossil fuel.



In November 2021, Navigator launched a new line of packaging products, under the new gKraft brand, designed to help accelerate the transition from using plastics to the use of natural, sustainable, recyclable and biodegradable fibres, once again making clear its commitment to sustainability and protecting the environment.

The Company is the country's third largest exporter, and the largest generator of national value added, representing approximately 1% of GDP, around 3% of Portuguese exports of goods, and more than 30,000 jobs, on a direct, indirect and induced basis. In 2021, The Navigator Company recorded turnover of € 1.59 billion. More than 90% of the Group's products are sold outside Portugal and are shipped to approximately 130 countries.

(*) FSC – Forest Stewardship Council® (License nº FSC®-C010852); PEFC – Programme for the Endorsement of Forest Certification schemes (License nº PEFC/13-23-001)

Milestones in each business in 2021

 <p>R&D + I</p>	<p><i>Aveiro/Espirra</i></p> <p>RAIZ is a non-profit organisation whose members are The Navigator Company and the universities of Aveiro, Coimbra and Lisbon (through the Instituto Superior de Agronomia). In 2021, its work resulted in the filing of a record number of patents (eight) and also a record number of publications (80).</p> <p>This private centre has a staff of 93 (48 permanent employees, researchers on temporary contracts, 9 recipients of research bursaries), including 23 with PhDs. It conducts research and innovation work and provides specialist supporting services for forestry, industrial and commercial activities, generating knowledge that makes Navigator's business more competitive and sustainable.</p> <p>RAIZ – Instituto de Investigação da Floresta e Papel</p> <p>The largest private institute in Europe, and one of the largest in the world, devoted to R&D in eucalyptus forestry and products (pulp, paper, tissue, biomass, derivative bioproducts, etc.).</p> <p>12.1 million euros*: Investment in R&D+i 93 Employees 8 patents submitted 80 publications</p> <p><small>*Navigator's total R&D+i expenditure based on the eligible amount for SIFIDE (the figure stated is for 2020 as the final figure for 2021 will only be established in July 2022).</small></p>
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 Forest	<p>The weather in 2021 was particularly dry, creating sub-optimal conditions for forestry operations, which tended to hold up work on forestation and planting. In the area managed by Navigator in Portugal, reforestation proceeded at a slower pace than in the previous year (which had been the busiest in recent decades), standing at 2,162 hectares.</p> <p>Navigator continued with measures to encourage certification of sustainable forestry management and succeeded in again increasing the percentage of certified wood purchased in Portugal (insofar as the wood it produces itself is 100% certified). From just 12.5% in 2016, this figure rose by 2020 to 61% and stood at 63% in 2021.</p> <p>104,673 ha* forest holdings with certified management in 166 municipalities in Portugal</p> <p>12 million plants/year at the nurseries in Espirra, Caniceira and Ferreiras</p> <p>73% eucalyptus 11.8% conservation areas and Natura 2000 Network (4,075 ha of classified habitats) 16.3% other forestry species (pine, cork oak, etc.)</p> <p>245 species of fauna >800 species of flora</p> <p>* 105,274 ha including Galicia region of Spain</p>
 Pulp	<p><i>Setúbal, Figueira da Foz and Aveiro</i></p> <p>During 2021, The Navigator Company recorded a reduction of 26% in overall pulp sales, which stood at 292 thousand tons. Thanks to market conditions, this was a favourable year overall for pulp, with growing incorporation in paper with greater value added and price rises that had a positive influence on profits. In value, sales totalled 169 million euros.</p> <p>Environmental issues and international guidelines for a more sustainable economy again had a positive impact on the pulp market, in a trend that has intensified in recent years. Gradual measures to replace plastic with environmentally more responsible materials and the growing demand in the textile sector for materials based on wood fibres have benefited pulp - a sustainable and 100% recyclable product that is playing a fundamental role in the transition to a green economy.</p> <p>1.6 million tons**</p> <p>Top European manufacturer of bleached eucalyptus kraft pulp (BEKP) and the 5th largest in the world.</p> <p>20% growth in sales in Europe 1.460 million tons of pulp output € 161 million in sales</p> <p>** Nominal capacity</p>



UWF Paper

Setúbal and Figueira da Foz

Turnover in the UWF (Uncoated Woodfree) paper market stood at € 1,162 million in 2021 (up by € 218 million from 2020), reflected in growth of 198 thousand tons in the sales volume in relation to the previous year. This was achieved in an environment affected by restrictions on supply and growing demand, particularly in the second half, and these factors led to record order books in the final months of the year, equivalent to more than 80 days' output.

Despite the atypical market situation, the Company continued to work on its brands, and the year saw research, development and the launch of several new products in a variety of segments including packaging (where it can substitute fossil-based plastics), cut size for office and home use, and paper for industrial processing, in areas such as publishing and notebooks.

1.6 million tons**

Top European producer of uncoated woodfree printing and writing paper (UWF) and the **6th** largest in the world



20% growth in sales in Europe


1.461 million tons of paper output

€ 1.154 million in sales

- Repositioning of Discovery paper as more efficient
- Launch of Navigator Universal paper with CO₂ Neutral label
- Launch of two new product lines for niches in the industrial market: Navigator Premium Writing and Navigator Premium Books
- Launch of Home Pack XS, a new ream of paper offering the Navigator brand's high standard of printing paper, but with less sheets in each ream

** Nominal capacity

 Tissue Paper	<p><i>Vila Velha de Ródão and Aveiro</i></p> <p>The volume of tissue sales stood at 105 thousand tons, down by close to 1% in relation to 2020, with sales of finished products once in excess of 80 thousand tons (up 1% on 2020). The sales value was driven by rising prices and accordingly grew by approximately 3% in 2021.</p> <p>Over the course of 2021, The Navigator Company continued to invest in Research and Development, with the launch of more sustainable products geared to current realities, and also investing in disruptive innovation and development of value-added products. With this strategy, developed in partnership with universities and research centres, the Company is determined to expand its market share with consumers.</p> <p>130 thousand tons** of finished products</p> <p>3rd largest Iberian manufacture, after 5 years in sector</p> <p>105 thousand tons sold</p> <p>Launch of new product lines</p> <p>In the At Home segment, Navigator launched the Naturally Soft brand, which uses unbleached virgin fibres, and two new lines of products with additives – Amoos Aquactive™, incorporating soap, and Amoos Air Sense™, with pearls of fragrance.</p> <p>In the Away from Home segment, a super-absorption range was launched, using distinctive technology that introduces air pockets between the two sheets, resulting in high performance products. Full advantage was taken of existing technology, especially at the Aveiro complex.</p> <p>** Nominal capacity</p>
 Energy	<p>As from the start of 2021, the natural gas combined cycle power plant at the Setúbal Industrial Complex switched to generating power for in-house production, powering one of the paper machines and selling only surplus output to the national grid. This caused the volume of energy sold to fall from 1,655 GWh, in 2020, to 1,439 GWh in 2021. This reduction, which also reflected a drop in energy output, was also visible in the value of sales, down from 144 million euros to 135 million.</p> <p>1.74 TWh of electricity 135 million in sales</p> <p>4% of all power generated in Portugal 35% of power generated from biomass in Portugal 1,296 tons of CO₂ / year – emissions saved by the solar power plant at Figueira da Foz</p>

 <p>Project under way</p>	<p><i>Mozambique</i></p> <p>In December 2020, Portucel Moçambique started the process of harvesting and exporting certified controlled wood from the responsibly managed pilot plantations in Manica province. This was another important step towards creating a forest-based industrial cluster in Mozambique and for positioning the company and the country on the international export market in products sourced from planted forests.</p> <p>The capex project in Mozambique aims to boost a value chain that combines the economic scale of the project with a firm commitment to the environment and a Social Development Programme that has benefited more than seven thousand families.</p> <p>USD \$125 million invested</p> <p>more than USD \$6 million invested in Social Development Programme, since 2015</p> <p>13,600 ha planted</p> <p>12 million plants – annual production capacity of Luá Nurseries</p> <p>1.7 million tons of CO₂ captured</p>
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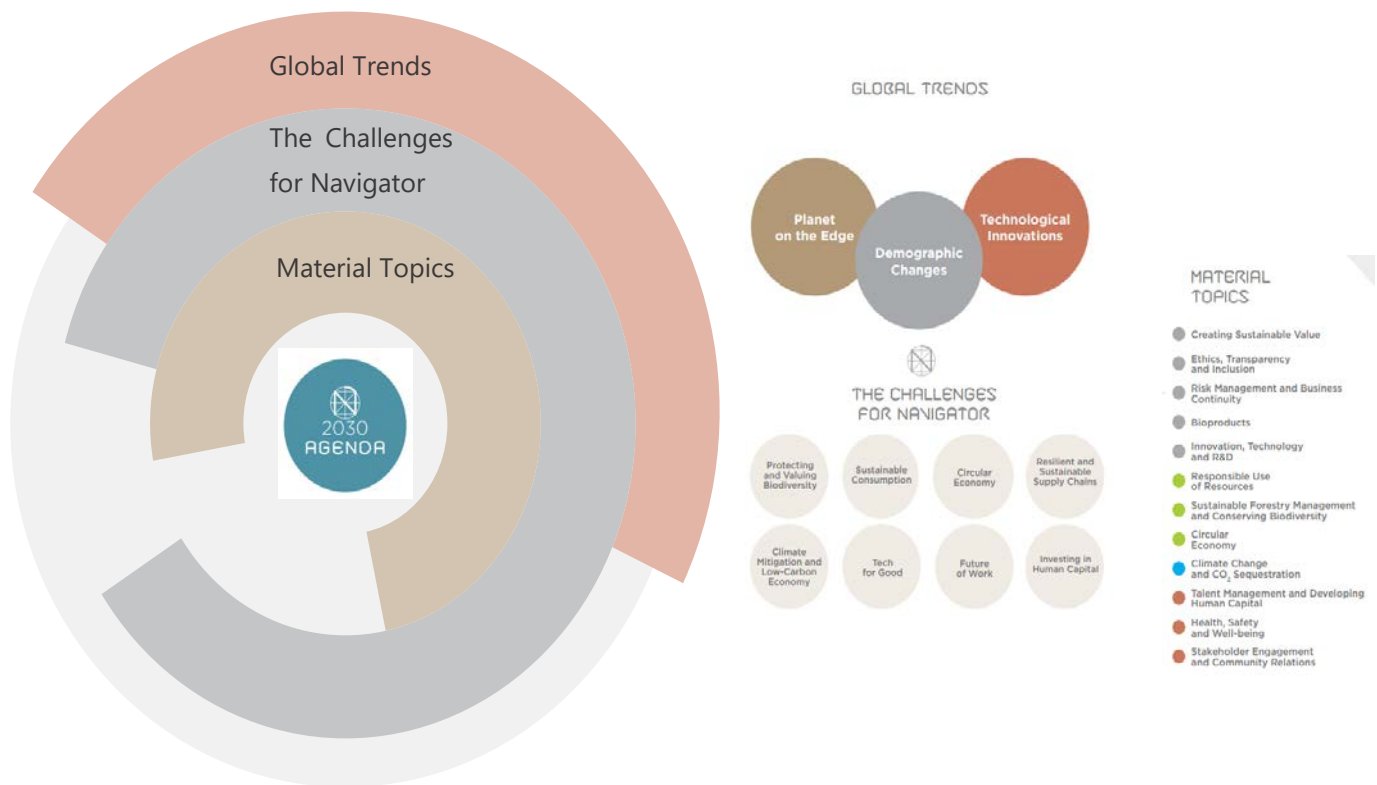
1.6 THE GLOBAL CONTEXT

The disruption caused by a pandemic that has lasted almost two years has highlighted the importance of macrotrends related to sustainability and the challenges these pose.

With a value chain that stretches around the world, The Navigator Company owes its business success to constant monitoring of these challenges. For this reason, the starting point for the design of Navigator's 2030 Agenda was an analysis of the main macrotrends and challenges that could potentially influence the Company's business, directly or indirectly, in the short, medium and long term.

The foundation for responsible management of the risks and opportunities associated with these macrotrends is our 2030 Agenda, shaped by a series of commitments and goals that we believe offer a balanced response to these challenges, in alignment with business development and society's expectations.

You can explore the macrorends Planet on the Edge, Demographic Changes and Technological Innovation on our website (QR Code: <http://www.thenavigatorcompany.com/agenda2030/conteudos>)



Challenges for Navigator

Protecting and Valuing Biodiversity



Biodiversity loss is one of the most pressing global crises of our times and has been identified by the World Economic Forum as one of the most severe global risks over a timeframe of 10 years. Wildlife and ecosystem protection, conservation and restoration have a crucial role to play in securing benefits in terms of climate regulation, availability of resources and other environmental and social services.

Estimates point to the need to establish protected areas covering at least 30% of globe's land mass. This figure has been established in the European Strategy for Biodiversity and was reiterated by several countries during COP26 (26th United Nations Conference on Climate Change), held in late 2021.

Important progress was made on this issue at COP26, with more than 100 countries committing themselves to end deforestation by 2030. Another significant advance was made with the Kunming Declaration and the creation of a biodiversity and ecosystems fund, within the framework of the 15th Biological Diversity Convention, permitting action to be taken to protect and restore ecosystems. These initiatives reflect worldwide support for achieving the ambitions set out in the post-2020 biodiversity framework.

Navigator's response

Woodlands are the main source of our raw material, and so the preserving and valuing natural capital is a central concern for the Company. The woodlands under our care in mainland Portugal are managed sustainably, as demonstrated by certification under the FSC® and PEFC schemes. We are committed to ensuring that 80% of the wood we acquire will be of certified origin by 2030. We aspire to generating a positive impact on biodiversity, through the conservation and monitoring activities to which we are committed as a member of act4nature Portugal (2020).

The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:

-  Sustainable Forestry Management and Conserving Biodiversity
-  Responsible Use of Resources
-  Climate Change and CO₂ Sequestration

Opportunities

- Promote forestation of scrubland with native species and production species managed in keeping with a sustainable model
- Improve the Company's image and reputation for conserving and valuing natural capital
- Capitalise on forestry experience and the virtues of the Company's forestry management model
- Exert positive influence on biodiversity conservation in sector, in third party areas, by sharing know-how, training and dissemination in development programmes and through the Company's communication channels
- Expand knowledge of how to value natural capital
- Undertake complementary agro-forestry projects, conciliating production forests with other forms of land use

Risks

- Restrictions on size of production forests
- Exodus from rural areas, leaving land untended and at a greater risk of fire
- Constraints resulting from European Strategy for Biodiversity, if the 30% increase in protected areas is imposed
- Effect of fires on biodiversity loss in woodlands

Climate Mitigation and Low Carbon Economy



As climate change intensifies and economies start to take steps towards recovery from the impacts of the SARS-CoV-2 pandemic, the topic of climate transition and adaptation is today at the top of the agenda. The risk of climate action failure is regarded by the World Economic Forum as the most harmful to society, the economy and the planet, in both the short and long term, and it has repeated its calls for an economic recovery based on a low carbon model.

A number of breakthroughs were made in 2021, including the signing of the Glasgow Climate Pact, once more pointing to the need for a 45% reduction in carbon dioxide emissions by 2030, in relation to 2010. In Europe, the Climate Law has been designed as a concrete response to the commitment made in the European Green Deal to achieve carbon neutrality by 2050. Alongside this, the forestry sector, led by the WBCSD's Forest Solutions Group, took the opportunity offered by COP26 to unveil its Roadmap for transition to a net-zero economy.

Navigator's response

The need to evolve towards a low-carbon economic model is reflected in the Company's Roadmap for Carbon Neutrality. This sets out our commitment to achieving neutrality by 2035, ahead of the international target dates, by cutting CO₂ emissions at our industrial complexes by 86%. Alongside this, our aim is for 80% of the primary energy consumed to be renewably sourced by 2030. To achieve these targets, Navigator has been investing in energy from renewable sources, such as biomass and solar, generated at the Company's biomass plants and solar power plants, as well as in projects to improve energy efficiency. At the same time, we have been analysing the positive contribution from our agro-forestry holdings to mitigating the effects of climate change, by serving as a carbon sink. Significantly, in late 2021, Navigator submitted its targets for reducing GHG emissions to the Science Based Targets initiative.

The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:

-  Responsible Use of Resources
-  Sustainable Forestry Management and Conserving Biodiversity
-  Circular Economy

Opportunities

- Innovate in adoption of challenging and competitive practices in emissions reduction throughout value chain
- Reduce emissions from industrial operations
- Find alternatives to use of resources whose availability may be threatened in future
- Establish local partnerships to disseminate use of renewable energy
- Include suppliers in partnerships for decarbonisation

Risks

- Dependence on in- and outbound logistics, with large carbon footprint
- Reduction of emission limits (ETS - EU Emissions Trading System) and the respective free allowances
- Threat of limitations to license to operate (extreme drought may affect forestry and industrial activities)

Circular Economy



Sustainable use of natural resources, where all products are part of a biological, chemical, and physical cycle, and are reused several times in their production process, has been dominating research around the world and attracting greater attention in economic debate. The circular economy is a strategic concept based on reduction, reuse, recovery and recycling of materials and energy, and that involves designing a more resilient economic model. With this in view, the European Commission (EC) proposed a new Circular Economy Action Plan in March 2020. In response to this plan, several member States, including Portugal, announced new legislation in 2021 on waste management, including packaging waste. At the same time, the EC carried out a public consultation on regulatory initiatives to combat greenwashing and to promote ecodesign, as well as on rules relating to packaging waste and industrial emissions.

Navigator's response

Navigator's production model is based on several circular economy principles designed to achieve maximum efficiency in using and safeguarding natural resources. More than 80% of the water it uses is currently returned to the environment and 90% of its raw materials are from renewable sources. However, we are faced with a number of by-products which we cannot recover internally, so we have turned to external partners to explore how they can be reused or recycled, in order to achieve the target set by the Company of recovering 90% of all waste produced by 2030.

In 2021, Navigator signed up to the CTI tool (Circular Transition Indicators), enabling it to apply circularity metrics to UWF paper.

The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:



Opportunities

- Declassification of waste which can be used as raw materials, or be recovered
- Benefits of circular processes for the business model
- Manufacture of renewably sourced products that are more recyclable and biodegradable
- Substitution of plastics by paper products
- Development of new products and alternative products
- Establishing new R&D partnerships and projects

Risks

- Stricter European regulations
- Global reduction in paper consumption
- Market preference for recycled paper
- Need to measure circularity using new tools

Sustainable Consumption



A shift to more sustainable patterns of consumption is one way of tackling problems of over-exploitation and scarcity of resources, which may cause raw materials to be less readily available in future. Sustainable consumption of resources means being more aware of the impacts on ecosystems and the need for change in consumer behaviour and habits.

Among other things, this tendency is associated with growing awareness and improving efficiency in production and consumption, leading to an impact both on manufacturers and on consumers.

In the strategy being implemented by the European Commission (EC), the future of sustainable consumption is based on consumer empowerment, on transparency, on trust and on consumer policies and regulations. Certification and labelling processes play a fundamental role in this process and in late 2020 a public consultation process was conducted for proposed legislation that will require companies to justify their claims about the environmental footprint of their products and services, by using standardised methods for quantifying this. As well as combating greenwashing, these rules are intended to create greater consumer trust in these processes and at the same time to raise the profile of companies that invest in this area to secure the sustainability of their businesses.

Navigator's response

Aware of growing consumer demands in relation to the environmental and social impacts of companies and their products, Navigator has a clear strategy for responding to these expectations. With the advantage that its products are naturally sourced, biodegradable, and recyclable, the Company guarantees that best practices are applied throughout its value chain. Our commitment to certified forestry management, our aim of purchasing 80% certified origin wood by 2030 and the fact that our products carry a forestry certification label and/or EU Ecolabel combine to offer consumers an additional guarantee. With the competitive advantage that forest-based products can be a viable alternative to fossil-based products, such as plastic, Navigator launched the gKraft brand in 2021 with the aim of building up the packaging market, currently making the transition to more sustainable solutions.

The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:

- Bioproducts
- Responsible Use of Resources
- Sustainable Forestry Management and Conserving Biodiversity
- Circular Economy
- Climate Change and CO₂ Sequestration

Opportunities

- Substitution of plastics by paper-based products
- Consumer preference for renewably sourced, recyclable and biodegradable products
- Investment in alternative products or bioproducts
- Opportunity for growth through increasing incorporation of recycled fibres in production process
- Advantage of products with certification label

Risks

- Global reduction in paper consumption
- Market preference for recycled paper
- New regulatory restrictions
- Increased consumer demands in relation to environmental and social impacts of companies

Resilient and Sustainable Supply Chains



Companies have increasingly woken up to the importance of analysing their supply chains and understanding what impacts their business is having along the entire value chain. The Covid-19 pandemic and the imperative need for economic recovery have put the resilience of value chains to the test and added to the urgency of questioning their sustainability. Companies have been hit by difficulties in importing raw materials and exporting products, due to repeated disruption of supply chains. The world currently faces a distribution crisis, due to the crisis in containers and congestion of maritime cargo terminals, affecting business around the globe and underlining the need to secure supply chains that are sustainable, robust and diversified. Ethical standards and respect for the environment and human rights are issues that companies must take into consideration when analysing their suppliers.

Navigator's response

Like other business organisations, Navigator has had to contend with the adverse effects of the pandemic, as prices rose for its main raw materials, as well as for other resources that it needs. Although it centred its endeavours over the year on addressing this disruption, the Company pressed ahead with measures to boost the resilience of its supply chain, which is 74% Portuguese. Steps were taken to redesign logistics, as a strategy for cutting CO₂ emissions, while the main focus was the project for calculation of scope 3 emissions, where it surveyed its suppliers' commitments to reduce their carbon footprint, with a view to supporting those that still lack policies and concrete plans in this area.

Another of the Company's priorities is to ensure responsible conduct along the entire value chain and it has established a Code of Conduct for Suppliers designed to achieve high standards in our suppliers and ensure that they follow the Company's guidelines for its supply chain.

The way we are managing this challenge is detailed below, in relation to the following material topics from the 2030 Agenda:

- Creating Sustainable Value
- Ethics, Transparency and Inclusion
- Risk Management and Business Continuity
- Stakeholder Engagement and Community Relations
- Climate Change and CO₂ Sequestration

Opportunities

- Relocate and/or shorten supply chains
- Increase scale of forestry plantations for intervention
- Improve ability to anticipate and manage risks, involving supply chains
- Strengthen resilience of business model
- Develop local/regional economies
- Establish partnerships with suppliers on relevant social and environmental issues

Risks

- More restrictive regulatory agenda
- Disruption in wood supplies
- Dependence on long supply chains
- Framework for Human Rights, Environmental Protection and Safety in the supply chain

Investment in Human Capital



Human capital can represent a company's largest asset, serving as a distinctive element in its development strategy.

In the search for sustainable competitive advantages in an increasingly globalised market, it is intellectual capital, such as know-how, experience, specialisation and other intangible assets, that increasingly makes businesses competitive.

According to Deloitte, which reported on global tendencies in human capital in 2021, the pandemic has highlighted certain tendencies in this intangible corporate asset, such as combining work and well-being and unleashing employee potential.

Employee well-being has been a focus of attention over the two years of the pandemic, as well as highlighting other challenges for companies such as how to attract and retain talent. Many companies have successfully implemented hybrid or remote working systems, boosting their ability to attract talent. Business organisations have been challenged to promote an employee-centred culture of well-being and development, a diverse and inclusive environment, and a work-life balance, in their quest to attract and motivate younger generations, such as millennials.

Navigator's response

Our people are one of the Company's most important assets, and our strategy is geared to their advancement and protection, and to fostering a more stimulating environment. In order to achieve this, we seek to provide our Employees with opportunities for professional and career development, by creating customised development plans, conciliating their needs with those of Navigator. The aim is to for 80% of Employees to have development plans by 2030. These plans will include training and define their responsibilities and differentials, serving as a blueprint for the professional advancement of each Employee. At the same time, the Company has devoted growing attention to Employee well-being and stepped up its occupational health programmes. Employee health was re-evaluated in 2021, looking at nutrition, mental health, physical activity, possible injuries, and also socio-economic issues that might affect their health.

The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:

-  Talent Management and Developing Human Capital
-  Health, Safety and Well-being

Opportunities

- Improve people's performance and development
- Attract and retain the best professionals
- Foster a culture in touch with society's needs, in order to attract and retain young talent
- Boost the image of a company with social impact, through Corporate Social Responsibility programmes
- Invest in policies and specific action in the field of equity and diversity
- Invest in Employee well-being, in their health and safety, and in the work-life balance



Risks

- Poor availability of specialist human capital in critical areas
- Reduced capacity in attracting and retaining young Employees (Generation Z)
- Lack of mobility solutions that allow people to be close to families
- Health risks associated with shift work

Future of Work



Ongoing advances in robotics, artificial intelligence and machine learning are launching a new era of automation, as machines start to rival or surpass human performance in various working activities. In the past decade, the debate about the future of work has been predominantly centred on the issue of automation and how people will adapt to this new era. The pandemic speeded up the shift to digital, and this has created a need to upskill and prepare human capital for new functions and work processes. This is a crucial moment for management to encourage a new approach to work and to capital. Companies have the responsibility and the opportunity to rethink their organisational structures and to play a central role as drivers of long-term resilience.

<h2>Navigator's response</h2> <p>Aiming to respond to the challenge “Investment in human capital”, Navigator has been working on internal succession plans, in order to ensure that different functions are sustainable in future. At a later stage, the Company intends to align Employee development plans with these succession plans. In addition, Navigator responded to the need for home working by continuing to invest in creating digital skills, thereby ensuring that all corporate functions continued without disruption in early 2021.</p> <p>The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:</p> <ul style="list-style-type: none">  Talent Management and Developing Human Capital  Health, Safety and Well-being 	<h3>Opportunities</h3> <ul style="list-style-type: none"> Commit to upskilling/reskilling, as a contribution to the expected transformative processes, with consequences for the relationship between the Company and its people Retain and attract the best professionals Improve people's performance and development Invest in new products or bioproducts <h3>Risks</h3> <ul style="list-style-type: none"> Demand for highly specialised human capital Lack of mobility solutions that allow people to be close to families Weakening of the Company's cohesion Global reduction in paper consumption
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<h2>Tech for Good</h2>	
<p>Technology is a challenge of ever-growing importance to society. The age of technological revolution will transform the everyday lives of people and companies, creating solutions for some of our social and environmental problems. From Industry 4.0 to the digital revolution, companies have embraced new ideas that offer them the chance of competitive advantages.</p> <p>This is the direction in which the post-COVID-19 recovery is heading, as reflected in the Next Generation EU funding package created by the European Council and implemented in Portugal through the Recovery and Resilience Plan. Investments worth 16.6 billion euros are planned to bring about long-term sustainable growth and to respond to the challenges of the twofold climate and digital transition.</p> <p>This will be a key moment for companies to leverage the technological revolution, enabling them to invest in decarbonisation, in the bioeconomy, in mobility and in digitising their processes and ways of working. At the same time, there is an opportunity to ensure that this revolution is fairer and takes place in other essential areas of society, such as education and public services, in order to mitigate the risk of unequal access to digital technologies, one of the threats identified for Portugal by the national representatives in the World Economic Forum risk analysis.</p>	

Navigator's response

Technological development at Navigator is closely associated with the R&D and innovation sectors, which seek to respond to the short-to-medium term challenges facing the Company in forestry and in products. The R&D sector played an important role in designing gKraft paper, a bioproduct that represents an alternative to fossil-based products and responds to the requirements made of packaging, in terms of protection and transport. Alongside this, Navigator has secured approval from the European Commission's Innovation Fund (small scale projects) for another project relevant to its plan for achieving carbon neutrality. This project consists of converting one of the lime kilns on the Setúbal site to biomass, aiming at a 72% reduction in the greenhouse gas emissions from this unit. The Company has also set up a new Digital Technology Division to take charge of all issues relating to Industry 4.0 and digital transformation in all operational areas, enabling technology to play an essential role in optimising performance and achieving better results, by creating smart systems all along the value chain.

The way we are managing this challenge is detailed below, in relation to the following material topics from our 2030 Agenda:



Opportunities

- Reformulate and adapt business model, with opportunities in the bioeconomy
- Cut costs through efficiency gains
- Offer new forest-based products that eliminate dependence on fossil fuels and contribute to a circular bioeconomy
- Promote the digital-paper interface
- Invest in new industrial and commercial technologies
- Innovate in packaging products
- Strengthen Company's reputation as flexible, change-aware organisation

Risks

- Contraction of markets for the products currently sold by the Company
- Growth in digital in relation to paper media
- Risks resulting from the use of artificial intelligence technologies, robotics, and Internet of Things in industrial processes (e.g. cybersecurity).

2. CREATING VALUE RESPONSIBLY

2.1. RESPONSIBLE GOVERNANCE MODEL

We believe that strong governance is fundamental in building a resilient and successful organisation in which sustainability is incorporated at every level. We engage openly and transparently with stakeholders throughout our value chain in order to create a fair and inclusive business. Policies, management systems and codes of ethics guide the way we conduct our operations, underpin the way we approach risks and opportunities, and enable us to measure our performance in alignment with the commitments made, in particular in our 2030 Roadmap.

At The Navigator Company, this well-established governance structure is supported by a number of different bodies, each with clearly defined functions with regard to sustainability management, in order to ensure our company practices are consistent with a Responsible Business.



The Sustainability Forum comprises permanent external members and internal members, and is chaired by the CEO, António Redondo, with Manuel Regalado as Secretary-General.

The internal members are António Redondo (Chief Executive Officer), Adriano Silveira, João Paulo Oliveira, João Lé, Fernando Araújo and Nuno Santos (Executive Directors), Manuel Regalado (member of the Board of Directors and Secretary-General) and Teresa Presas (member of the Board of Directors). The internal members also include representatives of the academic world who have sat on Navigator's Environmental Council for several years: Maria da Conceição Cunha (Chair), Casimiro Pio, Margarida Tomé and Joaquim Poças Martins.

The external members of the Sustainability Forum are prominent figures in the fields associated with the Company's main stakeholders: Cristina Tomé, Filipe Duarte Santos, Francisco Gomes da Silva, José Júlio Norte, Luís Neves da Silva, Manuel Martins, Rosário Alves, Sofia Crisóstomo Silva, Vitor Bento and Winfried Brüeggmann.

The Sustainability Forum met in two sessions in 2021: one internal session for the permanent members of the Forum (internal and external), and a second, external session in which a broad group of Company stakeholders took part.

The internal session, held in May 2021, was an opportunity to debate the 2030 Agenda and Navigator's sustainability reporting, as well as to reflect on the topic for the external session, which was held in Torres Vedras in October 2021, devoted to "Dynamic Forest Protection". At this session, the CEO underlined the idea that *"Defending woodlands cannot mean just passively conserving what exists, it has to be about generating future value in this fundamental resource, whilst always respecting nature, the landscape and communities"*.

The Environmental Council also held two meetings in 2021, at which the members were able to analyse the main plans for investment and action in environmental protection and woodlands conservation.

2.1.1 An internal team for Sustainability

The 2030 Responsible Management Agenda, published in 2021, has been strategically reviewed by the Executive Board and the commitments and priority plans established in the Agenda and the 2030 Roadmap are aligned with international trends and the social and environmental challenges facing Navigator's business.

The Executive Board has delegated management of the 2030 Roadmap to the heads of the different Company divisions and there is a team of Sustainability Key Users who oversee the action plan established for the areas where intervention is required under the Roadmap. This team works with management staff, and with support from the Sustainability Division, to assess The Navigator Company's performance in relation to the objectives set. Any changes to the original plans are reported to the Executive Board for approval, and then published in the Sustainability Report. This has been the Sustainability Management model in place since this instrument was created in 2016.

2.2. OUR 2030 AGENDA

The Navigator Company published its 2030 Responsible Management Agenda in its 2020 Sustainability Report. The Agenda is structured around a central focus - A Responsible Business - and three strategic action areas: responsible for Nature, for Climate and for Society.

The 2030 Agenda was the result of a broad and in-depth process, undertaken in connection with a new materiality analysis, completed in 2020 and involving more than 540 internal and external Stakeholders. Based on this engagement exercise, strategic reflection, and validation of the findings by the Executive Board, a list of 12 material topics was put together, and these underlie the strategic action areas in the 2030 Agenda: Creating Value Responsibly.

Navigator has also drafted a Positioning on Sustainability, designed to strengthen the Company's Sustainability Value, maximise its performance, contribute to business resilience and to its corporate reputation and image, and to pave the way for sustainability to feature as a strategic competitive advantage.

A full account of the engagement exercise, materiality analysis and design of the 2030 Agenda is given in the 2020 Sustainability Report. Pages 50 to 55. Read it here (QR Code: http://en.thenavigatorcompany.com/var/ezdemo_site/storage/original/application/0db4287d614684890f412961d087f669.pdf)

This strategy reflection is anchored in the desire to understand and internalise the challenges of Sustainability faced by the world and, in particular, those which represent real challenges for our business, in view of the context in which we are operating, as detailed in section 1.5. Global Context / Macrotrends.

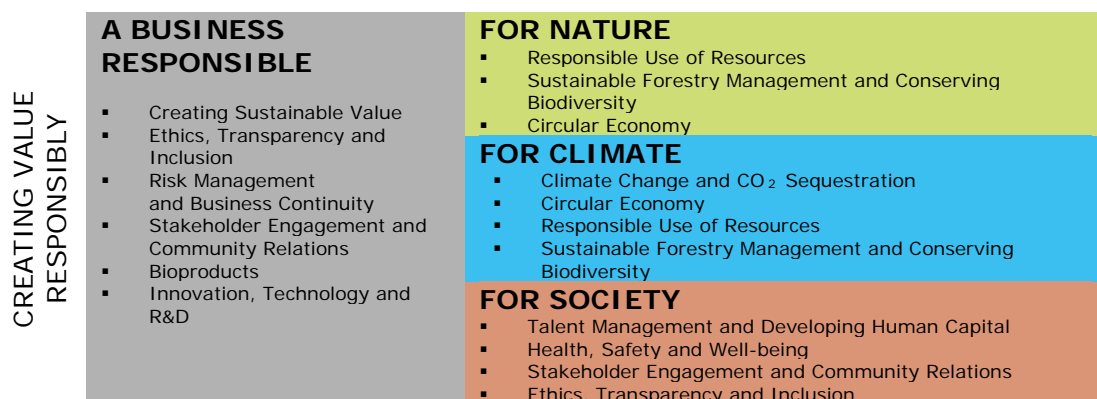
2.2.1 An agenda for creating value responsibly

The responsible management strategy embraced by The Navigator Company is based on Ethics, Responsibility and Transparency. We are responsible for forest-based products that contribute to sustainable development and to well-being in society, in alignment with the United Nations 2030 Agenda.

Our strategy is based on a governance structure designed to achieve business success in a fair and responsible way, responding to the legitimate interests of our Stakeholders and encouraging cooperation with them.

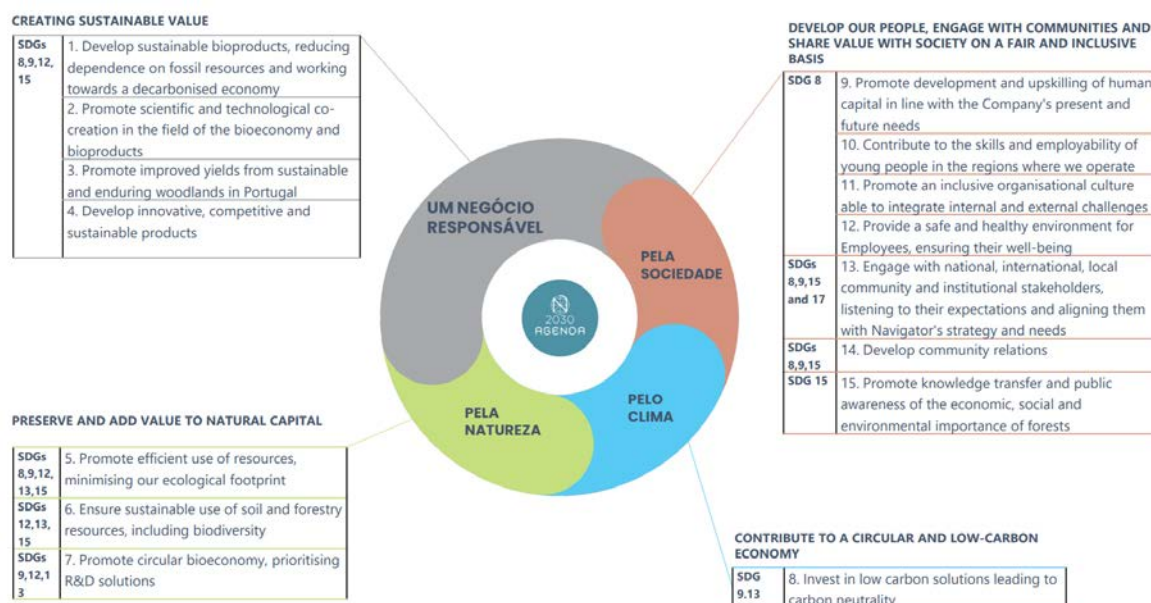
Designed to face and respond to the challenges and opportunities of the decade ahead, The Navigator Company's 2030 Agenda seeks to increase the Company's positive contribution to creating value and sustainable growth in a changing world.

The 2030 Agenda and material topics



You can explore the rationale behind The Navigator Company's 2030 Agenda on our website (QR Code: <http://en.thenavigatorcompany.com/2030agenda/conteudos>)

The Navigator Company' 2030 Roadmap sets out the concrete measures it will take to achieve the aspirations described in its Agenda. The Roadmap will guide the Company over the decade 2020-2030, helping it to create sustainable value.



(comprises the relation with Navigator's core SDGs)

Case study "Navigator's 2030 Agenda"

The Company's experience in putting together a 2030 Agenda from an extensive and effective process of stakeholder engagement formed the subject of a case study published in the BCSD Portugal Case Studies Library, entitled "Navigator's 2030 Agenda".

(https://bcsdportugal.org/wp-content/uploads/2021/11/Casos-de-estudo_Sustentabilidade_Agenda-2030-Navigator_final.pdf).

2.3. IMPACT ON SDGs


The Agenda 2030 for Sustainable Development is a call to action in response to the global challenges faced by mankind. At The Navigator Company we are committed to making the United Nations Sustainable Development Goals (SDGs) a reality.


Alongside the work on the 2030 Agenda, Navigator conducted an analysis in 2020 of the United Nations SDGs, focusing on those we regard as having priority, in other words, where we can make a more direct contribution. This led us to define three levels of contribution to the SDGs, depending on the influence the Company has on the success of these global objectives: core, supportive and others.

Navigator has identified areas where it can generate a positive impact on SDGs it classes as core, through its 2030 Agenda, and these offer an opportunity for creating long term sustainable value and for transforming the Company, and the sector alike, in order to respond to future challenges.

You can explore Navigator's approach to the SDGs on our website (QR Code: <http://en.thenavigatorcompany.com/2030agenda/conteudos>)

Our contribution to the Core SDGs

<p>CORE SDGs</p>  <p>Targets: 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7 and 8.12 / 9.1, 9.4 and 9.5 / 12.2, 12.4, 12.5, 12.6 and 12.8 / 13.1 / 15.1, 15.2 and 15.5</p>	<p>SDG 8 - Decent Work and Economic Growth</p> <p>We are working to be a top employer, seeking to create a fairer, healthier and safer workplace for all our Employees. Our relationship with local suppliers and producers contributes to a stronger local economy and more resilient communities.</p> <p>2030 Roadmap Commitments: 1,2,3,4,5,9,10,11,12,13,14</p>	<p>SDG 9 - Industry, Innovation and Infrastructure</p> <p>We strive to contribute to sustainable development by innovating, developing forest-based products and improving our forestry practices. This ambition is based on the collaborative spirit we share with our partners.</p> <p>2030 Roadmap Commitments: 1,2,3,4,5,7,8,13,14</p>
<p>SUPPORTIVE SDGs</p>  <p>Targets: 6.1, 6.3, 6.4 and 6.6 / 7.2 / 11.6, 11.8, 11.9 and 11.10 / 17.16, 17.17 and 17.18</p>	<p>SDG 12 - Sustainable Production and Consumption</p> <p>We know that to make our business more sustainable, it is fundamental to increase both circularity and our efficiency in using resources. At the same time, we want to respond to the expectations of consumers who are increasingly aware of these issues, and not only to ensure that our existing products are manufactured sustainably but also to offer new products for the packaging sector, as a sustainable alternative to the use of fossil-based plastics.</p> <p>2030 Roadmap Commitments: 1,2,3,4,5,6,7,8,13,14</p>	<p>SDG 13 - Climate Action</p> <p>We are aware that a holistic approach is required to this topic. It is crucial to strengthen the resilience of our woodlands, the source of our raw material, so that they can perform the vital function of carbon sequestration. We also need to be aware of the impact that developments in our forestry assets may have on our business, in particular on the availability of resources. Our role in the transition to a low-carbon economy entails an ambition to achieve carbon neutrality, in direct emissions, by 2035, and has recently led us to submit our targets to the Science Based Targets initiative.</p> <p>2030 Roadmap Commitments: 5,6,7,8</p>

<p>Other SDGs</p> 	<p>SDG 15 - Life on Land</p> <p>We are responsible for managing a vast area of woodlands in mainland Portugal (1.2% of the country's area), 100% certified under the FSC® and PEFC schemes. We are therefore concerned with preserving ecosystems and biodiversity. Practices promoting long term yields and resilience are built into our management model, ensuring at the same time that ecosystem services and natural capital are conserved.</p> <p>2030 Roadmap Commitments: 1,2,3,4,5,6,13,14,15</p>
<p>SDGs 6, 7, 11 and 17 (Supportive)</p> <p>The path that Navigator follows through to 2030 has an impact on these SDGs, directly or indirectly. Responding to these SDGs is an opportunity for sustainable economic growth through more responsible management of resources, generating value in communities and establishing partnerships with our stakeholders.</p>	
<p>SDGs 1,2,3,4,5,10,14,16 (Others)</p> <p>Navigator's 2030 Agenda interacts less directly with these SDGs, although there is a potential positive contribution through the Company's commitments and business plans.</p>	

2.4 STAKEHOLDER RELATIONS

For Navigator, stakeholder relations are a key element of how it conducts its operations and business. In addition to official channels for direct interaction with various groups, such as the Community Monitoring Committees, the Company has developed a series of tools that allow it not only to listen and communicate, but also to respond to these groups' expectations. Navigator uses these forms of interaction to consolidate trust and increase transparency, identifying potential risks and opportunities for its business.

Relationship Tools




	SHAREHOLDERS	BUSINESS ASSOCIATIONS	CUSTOMERS	EMPLOYEES	COMMUNITY
HOW WE CONDUCT RELATIONSHIPS	Investor relations Regular reporting of financial and non-financial information ESG Indexes Sustainability Forum	Participation in management bodies of industry associations in areas such as energy, forestry and sustainable development Sustainability Forum	Meetings/Visits to Group's mills and nurseries Satisfaction surveys Corporate website Business activities Advertising campaigns Periodic engagement exercises	Periodic meetings between Executive Board and Workers' Committee Managers' Forum My Planet Intranet Mill visits	Community Monitoring Committees Sustainability Forum Navigator Tour My Planet Give the Forest a Hand
MAIN THEMES OF INTEREST	Creating sustainable value Business ethics Circular economy Climate change Efficient use of resources Community engagement Conservation of biodiversity and ecosystem services Innovation and R&D Stakeholder engagement	Circular economy Climate change Sustainability in the supply chain Innovation and R&D Stakeholder engagement	Sustainability of paper Efficient use of resources Customer satisfaction Quality and product certification Use of virgin fibre	Employee engagement and motivation Climate change Efficient use of resources Innovation and R&D Health, safety and well-being	Climate change Water management Community relations Conservation of biodiversity and ecosystem services Innovation and R&D
	GOVERNMENT AND REGULATORY AUTHORITIES	SUPPLIERS	NGOs	FOREST LANDOWNERS AND FORESTRY ASSOCIATIONS	SCIENTIFIC AND TECHNOLOGICAL SYSTEM
HOW WE CONDUCT RELATIONSHIPS	Formal response to legal requirements Meetings and response to various enquiries Sustainability Forum Community Monitoring Committees	Suppliers' Day Declarations of conformity Sustainability assessment surveys Sustainability Forum	Sustainability Forum Mill visits Cooperation agreements Community Monitoring Committees	Cooperation agreements Forestry Producers Magazine Florestas.pt platform e- globulus platform Technology showcases Trade Fairs Sustainability Forum	Cooperation agreements with Universities Research partnerships (RAIZ) Study grants and Master's degrees Sustainability Forum
MAIN THEMES OF INTEREST	Water management Conservation of biodiversity and ecosystem services Bioeconomy Circular economy Climate change	Health, safety and well-being Business ethics Sustainability in the supply chain Innovation and R&D Climate change	Conservation of biodiversity and ecosystem services Stakeholder engagement Circular economy Efficient use of resources Climate change	Conservation of biodiversity and ecosystem services Stakeholder engagement Community relations Sustainability in the supply chain Innovation and R&D	Innovation and R&D Circular economy Conservation of biodiversity and ecosystem services Bioeconomy Efficient use of resources

2.5. 2030 ROADMAP









In the quest for greater transparency regarding its ESG performance over time, The Navigator Company believes it is essential to have a long-term plan and to share its progress in this area with all its stakeholders. With this end in view, we followed up the publication of our 2030 Agenda with the recent reformulation of our Sustainability Roadmap.




The 2030 Roadmap consists of 15 commitments drawn up in collaboration with the Company's various operational sectors. These 15 commitments are joined by a series of goals that we want to achieve by 2030 and that we believe have the potential to generate a significant impact in the priority areas of our 2030 Agenda. At the same time, we see the 2030 Roadmap as a corporate tool for managing the 2030 Agenda, which should therefore not be viewed as standing still. An annual review is therefore conducted which can result in fine tuning of some of the goals established, in line with possible new capital projects undertaken by the Company.




In 2021, our focus remained on achieving the goals we have set ourselves and the progress we made is set out in the following table:














	In progress, with negative tendency*
	In progress, as planned
	In progress, can be brought forward









*Negative evolution in relation to target in past two years











A RESPONSIBLE BUSINESS				
Commitments	Goals	Performance in 2021		
1. Develop sustainable bioproducts, reducing dependence on fossil resources and working towards a decarbonised economy	1.1 Develop new cellulose materials and composites, which are recyclable and biodegradable	New biocomposites made from cellulose fibres and bioplastics - new patent filed		
	1.2 Develop biofuels, bioplastics and biochemicals from forest residues	Integrated process for extracting bioactive compounds from eucalyptus biomass - new patent filed		
2. Promote scientific and technological co-creation in the field of the bioeconomy and bioproducts	2.1 Strengthen partnerships with Universities and Technology Centres in Portugal and abroad	Consolidation of partnership with Bioref and AlmaScience Collaborative Laboratories		
	2.2 Promote advanced training, in collaboration with universities: 20 doctorates by 2030	25 doctorates in progress in partnership with leading universities in Portugal and abroad (essentially in connection with the in pactus project)		
	2.3 Promote registration of intellectual property: 20 patents by 2030	8 patents filed in 2021 (out of a total of 18)		
3. Promote improved yields, resilience and sustainability in Portugal's forests	3.1 Develop genetically improved plants - clones and seeds based -, with gains of 30-50% in yields and enhanced resilience to climate change	<p>2 new improved clones offering gains of 40% in tons of pulp / ha in relation to woodlands without genetic improvement</p> <p>2 kg of improved seeds delivered to nurseries, with gains of 25% in relation to traditional seeds</p>		

A RESPONSIBLE BUSINESS				
Commitments	Goals	Performance in 2021		
	3.2 Propose biological solutions for combating the main diseases and pests in Portugal's eucalyptus forests	Release into wild of egg parasitoid (<i>Cleruchoides noackae</i>)		
4. Develop innovative, competitive and sustainable products	4.1 Develop innovative and distinctive paper products (pulp, UWF paper, tissue paper, packaging)	Launch of new gkraft brand of packaging papers 5 new tissue products (2 on market) New high yield kraft pulp for packaging		









FOR NATURE				
Commitments	Goals	Performance in 2021		
5. Promote efficient use of resources, minimising our ecological footprint	5.1 Cut specific water use (m ³ /t product) by at least 33% by 2030 (baseline: 2019)	Reduced by 6.7%		
	5.2 Optimise energy intensity, year after year	12.5 GJ/t, a reduction of 0.9 GJ/t		













FOR NATURE				
Commitments	Goals	Performance in 2021		
	5.3 Propose solutions that make it possible to improve efficiency in use of water and wood in the industrial process	PRWU (Programme for Reducing Water Use) implemented Projects implemented to minimise wood wastage		<div> <div>CORE</div>  <div>SUPPORTIVE</div>  <div>OTHER</div>  </div>
6. Ensure sustainable use of soil and forestry resources, including biodiversity	6.1 Achieve 80% use of certified wood by 2030	71%		<div> <div>CORE</div>  <div>SUPPORTIVE</div>  <div>OTHER</div>  </div>
	6.2 Promote chain of custody certification for all our wood suppliers by 2030	78%		
	6.3 Help reduce wildfires, guaranteeing a burned area of less than 1% of the woodlands under management by 2030	0.3%		
	6.4 Create positive impact on (or net gain in) biodiversity by taking action in keeping with Navigator´s commitments in act4nature Portugal	See act4nature report (online)		
	7.1 Recover 90% of waste by 2030	88%		















FOR NATURE			
Commitments	Goals	Performance in 2021	
7. Promote circular bioeconomy, prioritising R&D solutions	7.2 Develop sustainable applications and added value for by-products from industrial process (sludges, ash and other inorganic waste)	Increase in quantity of sand incorporated in process at Secil Britas (manufacture of aggregates). Tests successfully completed on using technosoils for restoration of mining areas.	 <div>  <div> <div>CORE</div> <div>    </div> <div>SUPPORTIVE</div> <div>    </div> </div> </div>









FOR CLIMATE			
Commitments	Goals	Performance in 2021	
8. Invest in low carbon solutions leading to carbon neutrality	8.1 Cut direct CO ₂ ETS emissions from industrial complexes by 86% by 2035 (baseline: 2018)*	Reduced by 30.1%	 <div>  <div> <div>CORE</div> <div>   </div> <div>SUPPORTIVE</div> <div>   </div> </div> </div>
	8.2 Use 80% of renewable energy in total consumption of primary energy by 2030 (baseline: 2018)	77%	 <div>  <div> <div>SUPPORTIVE</div> <div>   </div> </div> </div>

* Emissions reported in connection with ETS

FOR SOCIETY				
Commitments	Goals	Performance in 2021		
9. Promote development and upskilling of human capital in line with the Company's present and future needs	9.1 Reach 80% of Employees with development plans customised to their needs and professional plans, in alignment with Navigator's succession needs	38% of workforce		 CORE  SUPPORTIVE  OTHER
10. Contribute to the skills and employability of young people in the regions where we operate	10.1 Have active partnerships with educational institutions in all regions where we operate in Portugal, including curricular and professional internships, as well as participation in teaching activities, events and fairs	Participation in 25 job fairs 13 partnerships with Technical Colleges, in areas around Navigator plants 30 management-level internships 60 internships for technical operatives		
11. Promote an inclusive organisational culture able to integrate internal and external challenges	Continuous monitoring of the main motivational drivers for Employees, in order to implement better adjusted management practices, policies and processes	Straight to the Top Programme (communication channel for Employees' improvement suggestions)		
12. Provide a safe and healthy environment for Employees, ensuring their well-being	12.1 Achieve the Zero Accidents Target through continuous improvement in safety with the new OHS Strategy 2021-2023: Frequency index ≤ 2 in 2030 (internal and external Employees)	Frequency index: 6.6		
	12.2 Develop the Occupational Health Programme up to 2030:			

FOR SOCIETY				
Commitments	Goals	Performance in 2021		
	Work Ability Index (WAI): 45% in 2030	WAI: 39.8		 CORE  SUPPORTIVE  OTHER
	Assessment of Employee satisfaction with programme > 95%	98.8%		
	12.3 Develop Ergonomics Focus Area up to 2030:			
	100 workstations redesigned by 2030	23 workstations redesigned (to date)		
13. Engage with national, international, local community and institutional stakeholders, listening to their expectations and aligning them with Navigator's strategy and needs	13.1 Hold 10 events for interaction with representatives of relevant stakeholder groups around the country, or 5 meetings of the Community Liaison Committees in the areas around the Aveiro, Figueira da Foz, Setúbal and Vila Velha de Ródão industrial units.	<i>New commitment</i>		 CORE    SUPPORTIVE 

FOR SOCIETY				
Commitments	Goals	Performance in 2021		
14. Develop community relations	14.1 Run Forest Literacy initiatives for primary school children, teenagers and adults, in order to contribute to better knowledge of Portugal's forests, their environmental, social and economic importance, through the <i>Dá a Mão à Floresta</i> , <i>My Planet</i> and <i>Florestas.pt</i> projects. No. initiatives/year (digital and face-to-face): 10 . No. children reached/year: 20,000 . No. teenagers and adults contacted/year: 40,000	12 initiatives: 2 roadshows, 6 magazine editions; 3 interactive games, 5 episodes of the series <i>Portugal nas Alturas</i> , 3 cartoon episodes on SIC KIDS and 12 competitions Children reached: 8,000; 2 roadshows; 20,000 interactive games and cartoons; 14,800 copies of each edition of the <i>Dá a Mão à Floresta</i> magazine Teenagers and adults reached: 13,000 copies of each edition of <i>MY Planet</i> magazine		 CORE    SUPPORTIVE   OTHER   
	14.2 Promote and disseminate technical information about forestry production, helping to share best practices, through the Forestry Producers project . No. initiatives/year (digital and face-to-face): 10 . No. forestry producers reached/year: 10,000	6 initiatives: 3 magazines with a print run of around 30,000 per edition and 3 campaigns to contract woodlands; 500 digital content items Impact on a community of 10,000 Forestry Producers.		
15. Promote knowledge transfer and public awareness of the economic, social and environmental importance of forests	15.1 Implement Forest of Knowledge project, in partnership with Calouste Gulbenkian Foundation	Project launched in October 2021 with initiatives in the field		
	15.2 Implement the UNESCO RAIZ Club	Initiative launched in 2021		

FOR SOCIETY				
Commitments	Goals	Performance in 2021		
	15.3 Develop the Florestas.pt platform	19 sessions with academics 4 Newsletter´s editions 18 authored articles 52 specialists involved in development technical and scientific content High-profile website, with prime position in Google search		 CORE  SUPPORT  OTHER 
	15.4 Consolidate the <i>e-globulus</i> platform	10,500 users, 560 registered; more than 44,000 hits; new functions		
	15.5 Consolidate the Forestry Producers project	Information materials on best forestry practices, genetic materials and contracting woodlands		

3. A RESPONSIBLE BUSINESS





ASSOCIATED MATERIAL TOPICS

- Creating Sustainable Value
- Ethics, Transparency and Inclusion
- Risk Management and Business Continuity
- Stakeholder Engagement and Community Relations
- Bioproducts
- Innovation, Technology and R&D

AMBITION: CREATING SUSTAINABLE VALUE

Creating value and opportunities for responsible business, applying ethical principles and demonstrating integrity and transparency in everything we do. From forest to paper, a sustainable cycle is reflected in an extensive and innovative value chain where we manage risk and engage with our Stakeholders.

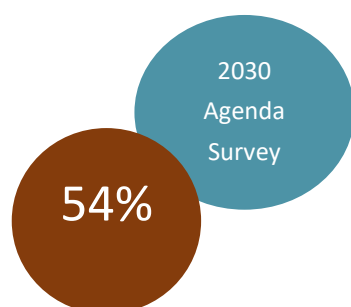
OUR COMMITMENTS

- 1 Develop sustainable bioproducts, reducing dependence on fossil resources and working towards a decarbonised economy
- 2 Promote scientific and technological co-creation in the field of the bioeconomy and bioproducts
- 3 Promote improved yields, resilience and sustainability in Portugal's forests
- 4 Develop innovative, competitive and sustainable products

CORE



SUPPORTIVE



54% of our Employees identify themselves a lot with the creation of sustainable value applying principles of ethics, integrity and transparency, through responsible management and cooperation with our main stakeholders.

The data on the opinions of our Employees concerning the 2030 Agenda set out in this Report was based on 856 responses out of a 3,232 Employees (permanent workforce in 2020).

3.1. CREATING SUSTAINABLE VALUE

Why is this relevant?

Aware of the impact of its operations on Society, The Navigator Company sees its purpose as creating sustainable value and sharing it with its different Stakeholders. By creating value, the Company benefits its shareholders, but also its Employees, its customers, its suppliers, local communities and society as a whole.

Navigator is an important pillar of the Portuguese economy and has an impact on the lives of thousands of people throughout the value chain. The success of its business and financial performance is increasingly indissociable from its sustainability strategy, and in particular the way in which the Company manages its relationship with society, sound management of the resources it uses, its ability to mitigate its business risks and transparent, open-access communication.

Creating sustainable value is so intrinsically tied up with the Company's development that the environmental dimension of sustainability, namely decarbonisation, has been fully integrated into The Navigator Company's strategy, reflecting the organisation's long-established awareness of its role in mitigating and adapting to the effects of climate change.

Our impact

The Navigator Company's commitment to sustainable development is an essential component of its corporate purpose. Its main focus - pursuit of a responsible business - is directly linked to the Company's 2030 Agenda, a conceptual and operational guide that will allow it to face the challenges and opportunities of the decade ahead. This Agenda, which is aligned with the United Nations SDGs, reflects Navigator's responsible management strategy, which is intended to boost our contribution to creating value and sustainable growth in a changing world.

Endeavours to achieve sustainability in the near future will clearly entail the need to make the transition to a world based on a decarbonised economy. Our ability to create value for shareholders will inevitably be linked to how the Company sets about making these changes. It can safely be said that the Company's long-term value will depend, to a large degree, on its ability to adapt to these demands. This means that the commitments made by Navigator in this field, such as its Roadmap for Carbon Neutrality drawn up in 2019, will here be of crucial importance.

The Navigator Company's capital expenditure plan is therefore shaped to a large extent by the imperative of honouring its commitments in the 2030 Agenda, with the projects entailed by the decarbonisation roadmap taking pride of place.

In addition, the Company's financing policy and processes provide an excellent foundation for implementing its sustainable development strategy, allowing it not only to select suitable terms and conditions for financing risk and pricing, providing a sound and consistent basis for gradual implementation of project, but also to systematically plan developments well in advance.

Navigator has been contracting finance on price terms linked to compliance with sustainable development goals or to ESG indicators (Environmental, Social and Governance) performance, thereby reaffirming its alignment with its declared strategy. These financing terms testify unambiguously to the Company's commitment to its sustainable development goals.

2021 IN FIGURES

<< 3rd place, out of 81 companies in the sector in the Sustainalytics ranking >>

<< 100 million euros in ESG-linked finance >>

<< Navigator signs up to SBTi and submits targets >>

<< Participation in CDP Climate and Forest >>

Key developments in 2021

Navigator has again made important strides towards sustainable financing, issuing 100 million euros in sustainable financing, under the Sustainability Linked Bonds Framework, with interest rates tied to ESG indicators aligned with the United Nations SDGs. The acquisition of this finance underlines the Company's commitment to continuously improving its sustainability performance. This commitment has received positive external endorsement from independent bodies such as Sustainalytics, which ranked Navigator third out of 81 companies in the industry cluster, and also CDP, where the Company received a B rating, for both Climate and Forest. In another milestone in 2021, the Company has signed up to the Science Based Targets initiative (SBTi).

Finance for sustainable development

Companies are increasingly aware of the importance of incorporating sustainability criteria into their business models, and this has become crucial to their ability to access certain financial services or products. This is a growing trend, and new regulations, such as the European Taxonomy, are leveraging the shift towards channelling investment flows to activities considered to be sustainable, providing objective classification criteria and reducing the potential for greenwashing.

For The Navigator Company, these developments are fully consistent with principle of incorporating sustainability into its business model and, in 2019, it contracted the first programme of "green" commercial paper launched in Portugal, with a value of 65 million euros. The pricing terms for this issue are linked - through the indexation of the value of the underwriting commission of the program - to a sustainability score assigned by Sustainalytics and subject to annual review. True to the commitment built into this operation, the Company has gradually improved its score, as detailed in a later chapter of this report.

In another major development, the EIB has provided finance of 27.5 million euros for the new biomass boiler in Figueira da Foz Industrial Complex (Figueira Environmental Enhancement), corresponding to 50% of the capital for this project, which is regarded as crucial for attainment of the Company's aim of carbon neutrality. Contracted in July 2020, drawdown took place in the first quarter of 2021.

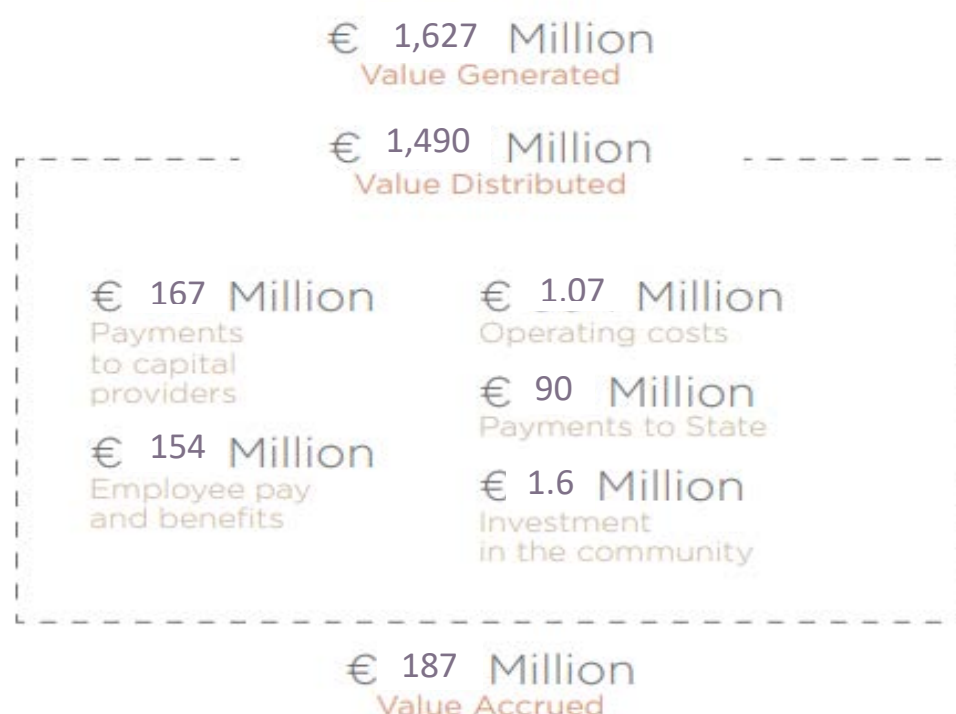
In keeping with this financing strategy, Navigator made an issue of sustainability linked bonds linked to two important performance indicators for the pulp and paper industry included in the 2030 Company's Roadmap:

- **Reduction of CO₂ emissions (scope 1 - ETS)** (SDG 9 and SDG 13), with goals quantified over the lifetime of the loan, which comes under the strategic action area "for Climate", commitment 8. Invest in low carbon solutions leading to carbon neutrality.

- **Increase in the percentage of certified wood purchased on the Portuguese market** (SDG 12, SDG 13 and SDG 15), which comes under the action area “for Nature”, commitment 6: Ensure sustainable use of land and forestry resources.

The goals to which these KPIs are tied are regarded as crucial for Creating Sustainable Value in accordance with the strategy adopted, which means:

- Alignment with the goal of mitigating climate change, where Navigator is committed to achieving carbon neutrality at its industrial complexes by 2035;
- Alignment with promotion of improved woodlands management, which is especially relevant as it offers an assurance that the Company purchases certified wood, its main raw material.



Eligibility under the European Taxonomy

In 2019, the European Commission announced a new strategy for growth, the European Green Deal, designed to cut greenhouse gas emissions to zero by 2050 and to support economic growth through more efficient means and sustainable use of natural resources. To facilitate this, a practical framework for sustainable investment has been provided by Regulation (EU) 2020/852 of the European Parliament and the Council of 18 June 2020, on the European Taxonomy. This establishes a standardised

classification system to be used to determine which economic activities are considered "environmentally sustainable" in the European Union.

On the basis of the catalogue of activities deemed eligible under this system, for the environmental goals of "climate change mitigation" and "adaptation to climate change", Navigator has conducted an analysis of its activities to determine their eligibility under annexes I and II of Delegated Regulation (EU) 2021/2139 of the European Commission.

For more detail, see the attached report on the European Taxonomy (page 139).

Low ESG risk rating by Sustainalytics

<< Navigator ranked 3rd out of 81 companies in Paper & Forestry sector >>

The Company was once again rewarded for its efforts to reduce its environmental impacts by a further improvement in its 2021 ESG Risk Rating from Sustainalytics, which assesses the Company's Environmental, Social and Corporate Governance performance and issues an annual rating (within the context of the pulp and paper sector). Navigator stands among the best companies in world for sustainability and was once again classified as presenting a Low ESG Risk for investors.

In the review in late 2021, the Company obtained a very positive score - 14.3 -, representing an improvement on the previous appraisal. This rating put Navigator in third place out of a total of 81 global companies in the Paper & Forestry industries cluster, and third out of 60 global companies in the Paper & Pulp cluster.

CDP Performance

Navigator has participated in CDP Climate since 2018, seeking to respond to the growing demands of this tool for assessing the Company's progress in the field of risk management and climate action. In addition to the climate change questionnaire, in 2021 the Company responded for the first time to the CDP Forest questionnaire, focusing on forest management. In both questionnaires, the Company obtained a score of B (management level). There was accordingly a change in the Company's CDP Climate score, reflecting the increasingly tough criteria, principally in certain criteria which attach value to the Company's decision to sign up to SBTi. It should be noted that this questionnaire referred to 2020, and Navigator signed up to SBTi in late 2021, going on to submit its targets for cutting GHG emissions based on the latest climate science, adding credibility to its stance on the fight against climate change.

Joining the SBTi



Targets 8.4; 9.4; 12.6 and 13.1

In keeping with the commitment made in its 2030 Agenda, Navigator has signed up to the Science Based Target initiative (SBTi) and, in contrast to what most companies in the sector have done, immediately submitted for validation its targets for cutting greenhouse gas (GHG) emissions on the basis of the latest climate science, thereby dispensing with the two-year period permitted before seeking validation. This represented yet another important stride in its position on the fight against climate change. The near-term science-based targets submitted by The Navigator Company are consistent with the ambition to reduce GHG emissions to the levels needed to limit global warming to 1.5°C, in the case of scopes 1 and 2, and well below 2°C, in scope 3.



Participation in drafting the BCSD Portugal Charter of Principles

Navigator is a signatory to the BCSD Portugal Charter of Principles, in which Portuguese businesses rally around shared commitments to sustainable development for Portugal and has pledged to implement them. To this end, it has been an active member of the Charter of Principles Technical Committee, whose proceedings led to publication of the document "2030 Journey to Sustainable Business", a shared business agenda featuring 20 goals, 20 targets and 20 indicators.



Read about this initiative online at: QR CODE <https://bcsdportugal.org/carta-principios/>

3.2. ETHICS, TRANSPARENCY AND INCLUSION

Why is this relevant?

The Navigator Company has a management approach based on ethical principles, integrity and inclusion, both in its internal dealings and in its interactions with external stakeholders involved in operations all along its value chain.

This approach is essential for the Company to create sustained value and to protect shareholder interests, offering an adequate return for investors, on the strength of high quality standards in the goods and services supplied to Clients, standards of ethics and inclusiveness on the part of its Suppliers, and also the recruitment, motivation and development of a skilled workforce.

Our impact

Issues of ethics, transparency and inclusion are hardwired into The Navigator Company's business model. In the light of the challenges currently facing society, companies are increasingly called on to adopt high ethical standards, in response to the ever higher expectations of their stakeholders. Navigator believes that companies are responsible for building a better society, by conducting their operations and activities on an ethical basis and promoting an ethical business culture.

At the same time, we know that corruption is a problem that affects all businesses and our Company is not immune to this phenomenon, as reported in previous reports. We have built our response to this on the provision of robust codes of conduct, permanent monitoring in areas where the risks are greater and collaboration with the authorities whenever the need arises.

Navigator adheres to a series of principles which are reflected in its various policies, codes and internal regulations, designed to ensure the highest standards of conduct in its business, such as the Code of Ethics and Conduct for Employees, the Code of Conduct for Suppliers and the Regulations of the Ethics Committee, among other documents.

The Company has made several commitments that embody its management goals in this area, including:

- Approval of a diversity and equal opportunities policy, ensuring equal opportunities in recruitment and throughout professional careers, including in appointments to company boards and management positions, on purely professional grounds.
- Adoption, compliance with and promotion of an approach to Sustainability issues, including environmental protection, where the precautionary principle is paramount.
- Compliance has been instituted as a corporate function and a Compliance Officer appointed, to ensure transparency and integrity in the Company's practices and for Employees at all levels to take on board the values of business ethics, enabling the Company to act in keeping with the law, standards and internal regulations in this area.
- Due diligence audits in matters and areas identified by the Risk Management Division and the internal audit office.

Key developments in 2021

In 2021 the Company focused on two main areas of ethics and compliance: on the one hand, it sought to raise Employee awareness of these topics, designing a training programme which will be launched in the first quarter of 2022, and on the other hand, the Risk Management Division continued its active monitoring of the main risks. To this end it looked into all whistleblowing reports received and followed up on all the situations identified, cooperating with the authorities to ensure that all Navigator's transactions are structured to fall within the parameters established in the relevant internal codes.

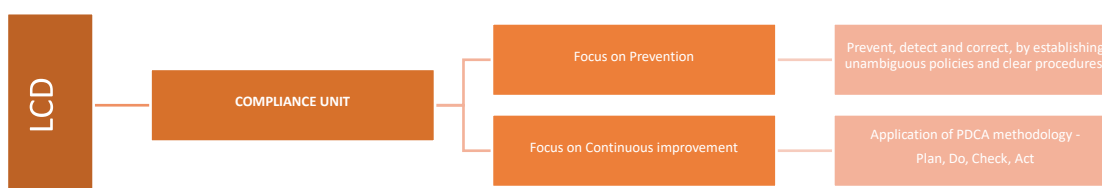
A new Compliance Unit has been set up within the Legal, Compliance and Public Affairs Department, to ensure as a matter of priority that The Navigator Company abides by the law and regulations in force in all regions where it operates. The decision to create the new unit was taken in 2021, and it started working in February 2022.

Approach to ethics and compliance

An important aspect of Navigator's responsible management strategy is the Compliance Programme, launched some years ago with the review of the Codes of Ethics and Conduct and the Whistleblowing Regulations, followed by approval of the Code of Conduct for Suppliers and the Code of Good Conduct for prevention of workplace harassment.

You can consult the documents that set guidelines for Navigator's conduct on our website: (QR CODE: <http://en.thenavigatorcompany.com/Investors/Governance>)

In 2021, the Company attached priority to promoting compliance with the law and regulations in force in all regions where it operates, in keeping with developments in best international practice. Underlining the importance of pursuing a compliance policy that shapes the Group's activities along the entire value, legal and regulatory chain, preventing and combating illegalities in keeping with the principles of transparency and justice, The Navigator Company has set up a Compliance Unit within its Legal, Compliance and Public Affairs Division (LCD).



In order to achieve the aims pursued by the Compliance Unit, Navigator will take a number of steps as described in the following table.

<i>Steps to be taken by the Compliance Unit</i>
<i>Analysis of risks, by assessing issues of conduct to which the Company may be subject because of the area in which it operates.</i>
<i>Design of an action plan, by planning a strategy for implementation of a compliance programme, which should describe each stage, how it will be carried out, disseminated and monitored and how training will be provided across the workforce.</i>
<i>Awareness raising and internal communication campaigns concerning the compliance programme and the code of conduct.</i>
<i>Contribute to setting up communication channels, by creating and/or providing information on whistleblowing and reporting channels open to Employees, and to clients and suppliers.</i>
<i>Engagement with all Employees, educating and raising awareness of the responsibilities inherent in what they do.</i>
<i>Monitoring of the functioning of each key area of the compliance programme, by following up implementation and testing their effectiveness.</i>
<i>Evaluation and correction of problems.</i>

Navigator's success in implementing a Compliance culture, on the basis of the Compliance Programme that is approved by top management, will depend on working hand in hand with different sectors of the Company, including Risk Management, Information Systems, Procurement, Purchasing, Sales, Industrial, Quality Management, Sustainability, Forestry Management, Wood Supplies and Financial.

Employee Empowerment

In 2021, Navigator developed a training programme on the Codes of Ethics and Conduct and the related internal regulations. This training will be offered to all employees in the first quarter of 2022, on an online e-learning basis, in order to underline the importance of the rules contained in the internal codes of ethics and conduct.

Respect for Human Rights

Respect for human dignity is a principle that must be paramount in all dealings, including in the corporate world. In view of the complexity of the challenges facing society today, it is undeniable that companies have a duty to incorporate respect for Human Rights into responsible management of their business, seeking to have a positive impact on society. Experience shows that companies come across human rights issues in their daily business dealings, and especially in interaction with their workers, suppliers, consumers, partners and local communities.

Now that Navigator has developed a Responsible Business Agenda (its 2030 Agenda), it is imperative to ensure that it complies with best practice in this field. A long list of human rights is enshrined in the documents developed to foster responsible conduct, and in the commitments made by the Company:

- Freedom, equality, dignity.
- No discrimination or coercion.
- Freedom of thought, conscience and religion.
- Prohibition of slavery and child labour.
- Recognition of the freedom of association and collective bargaining.
- Equality of opportunities.
- Gender equality.

It is therefore important not only to endeavour to adhere to best practices, but also to make efforts to share them. This is why Navigator has made a public commitment to honouring Human Rights, embodied in the Portuguese version of the CEO Guide to Human Rights, published by BCSD Portugal in conjunction with other companies in the country, thereby complying with one of the three pillars of the United Nations Guiding Principles on Business and Human Rights.

You can access this document at - QR Code: <https://www.wbcsd.org/contentwbc/download/6991/115828/1>

Diversity and Inclusion

<<Navigator recorded an increase of 7% in women in management and leadership positions in relation to 2020>>

Navigator has encouraged debate on Diversity & Inclusion (D&I), resulting in the design of its Gender Equality Policy, which underpins the Group's Equality Plan. A taskforce has also been set up to respond more effectively to these issues within the organisation.

This Gender Equality Taskforce comprises three members of staff (three women and two men) from different areas and levels of responsibility within the organisation:

- 1 taskforce coordinator, with expertise in the fields of Sustainability and Forestry.
- 2 members from the industrial sector in the Pulp and Paper business, but from different areas and geographical locations.
- 1 member from the Tissue business industrial sector.
- 1 member from the commercial area.

The taskforce started its work in the final quarter of 2020 and has identified potential improvements and avenues for development in order to make an effective and

material contribution to the Company's Gender Equality Plan, in the period 2021-2022. Future action in this field will encompass three areas: a) information, indicators and good practices, b) external communication and c) awareness raising and internal engagement.

The Company has undertaken an inclusion survey, looking not only at constraints but also at potential initiatives to promote greater inclusiveness, and the findings will form the basis for designing an implementation plan in 2022.

In the field of corporate social responsibility outside the organisation, The Navigator Company decided to step up its commitment to gender equality by again giving its weight and support to the GirlMove Academy, an organisation that positions itself as a leadership academy and "boosts talent, promotes gender equality and generates sustainable change through its innovative educational schemes". The GirlMove Academy is focused on the process of change, on mentoring and developing young Mozambican women, in order to leverage their careers as leaders. In the final quarter of 2021, Navigator hosted one of these young women on the ExchangeLab scheme, providing a mentor and a programme of activities and interactions.

It should also be noted that Navigator has been a signatory to the BCSD Portugal Charter of Principles since 2017, and in 2021 sat on the Technical Commission entrusted with developing Goals, Targets and Indicators (GTI), as stated in chapter 3.1 ('Creating Sustainable Value'). Under Principle 3 of this Charter, and in particular under item 3.4 ('Promote equal opportunities and treatment in employment and work'), the organisation has established the goal of "Strengthening equality and diversity" (Goal 8), with the target of ensuring "the gender balance is achieved and sure foundations are laid for inclusion and diversity" by 2030.

Braille edition of Visão Magazine



Target 8.5



<<Navigator supports production of more inclusive content>>

Navigator has supported the braille edition of Visão for the third year running, by providing the paper needed for printing. This edition has a print run of 1,150 per month, and copies are distributed free of charge to visually impaired readers, and also to libraries, residential homes and special education institutions. The braille edition features a selection of articles published in the weekly edition of the magazine.

Navigator has contributed to this welfare project in order to provide the visually impaired community with more inclusive access to editorial content on current affairs. The Company is aware of the challenge entailed in assessing, identifying and promoting application of best practices in accessibility and usability, not only in printed content, but also online. It has chosen to support this initiative because it believes it has the potential to raise public awareness of the needs of this group and also to provide information on a more inclusive basis and to make for an improved user experience.

3.3. RISK MANAGEMENT AND BUSINESS CONTINUITY

Why is this relevant?

Risk management is a key part of the decision-making process at The Navigator Company, which continuously monitors the risks to which it is exposed. Efforts are made to raise awareness in different sectors of the Company's operations, fostering a culture based on risk prevention, whilst also taking a positive approach in accepting risks with the potential to respond to challenges and new opportunities.

The Company has a system for permanent monitoring of risks, based on systematic and explicit assessment of business risks by all of Navigator's organisational departments and identification of the main controls in place in all business processes, allowing for subsequent follow-up.

The risks currently faced by Navigator, arising largely from global changes, could undermine its business continuity, and it has therefore developed a Business Continuity Plan to enable the Company to anticipate and forestall the consequences of possible adversities.

Our impact

Risk management and business continuity are topics that cut across all sectors of the Company, from finance to purchases of raw materials or management of human resources. The potential impacts of the risks identified in these areas could jeopardise business continuity.

This means that business continuity is dependent on risks which have impacts ranging from financial implications to the loss of human capital or shortages of raw materials, among other things. The strategic importance of risk management has to do with the Company's ability to prepare for the future and to deal with potential episodes of disruption, ensuring that its business can continue.

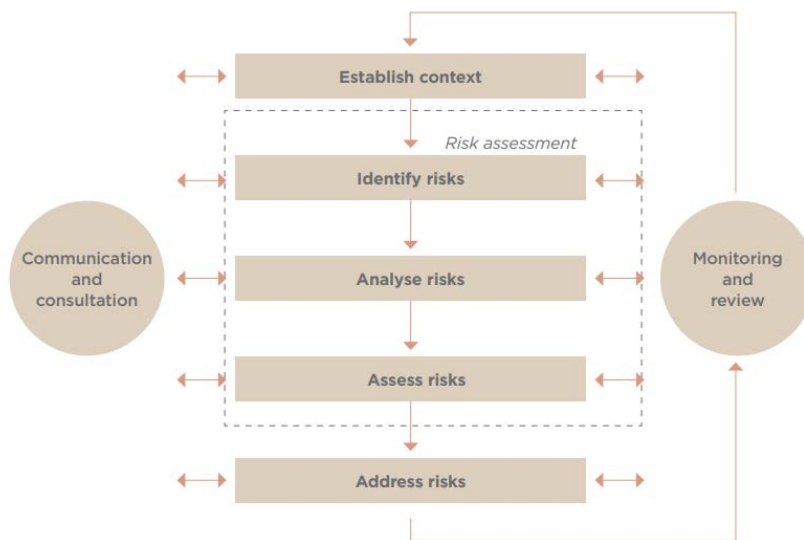
Key developments in 2021

As in 2020, part of Navigator's risk management again consisted of adapting and implementing procedures to respond to developments in the COVID-19 pandemic. In view of the pandemic's adverse effect globally on distribution chains, special efforts have been made to build up resilience, in our suppliers, and also in the Company. In 2021, Navigator was again awarded a positive rating by Sustainalytics, whose assessment classed the Company as presenting a low level of risk on economic, environmental and governance issues. Another important factor has been portfolio diversification, with the move into the packaging market.

Risk management in the organisation

The topic of Risk Management is addressed and explored in our Corporate Governance Report. In this chapter, we will address the management of the risks related most directly to the topics materially relevant to Navigator, which were the starting point for the Company's 2030 Agenda and also to the 2030 Roadmap. Chapter 1.5 Global Context identifies the risks and opportunities arising from the challenges to our business in the context of global macrotrends, such as the climate emergency.

The Risk Management Division is responsible for monitoring and controlling the main risks, through a systematic and structured approach that involves all operational areas and identifies the control activities needed for each situation. This work is carried out by means of internal audits, as illustrated in the diagram below.



Business Continuity and Disruptive Events

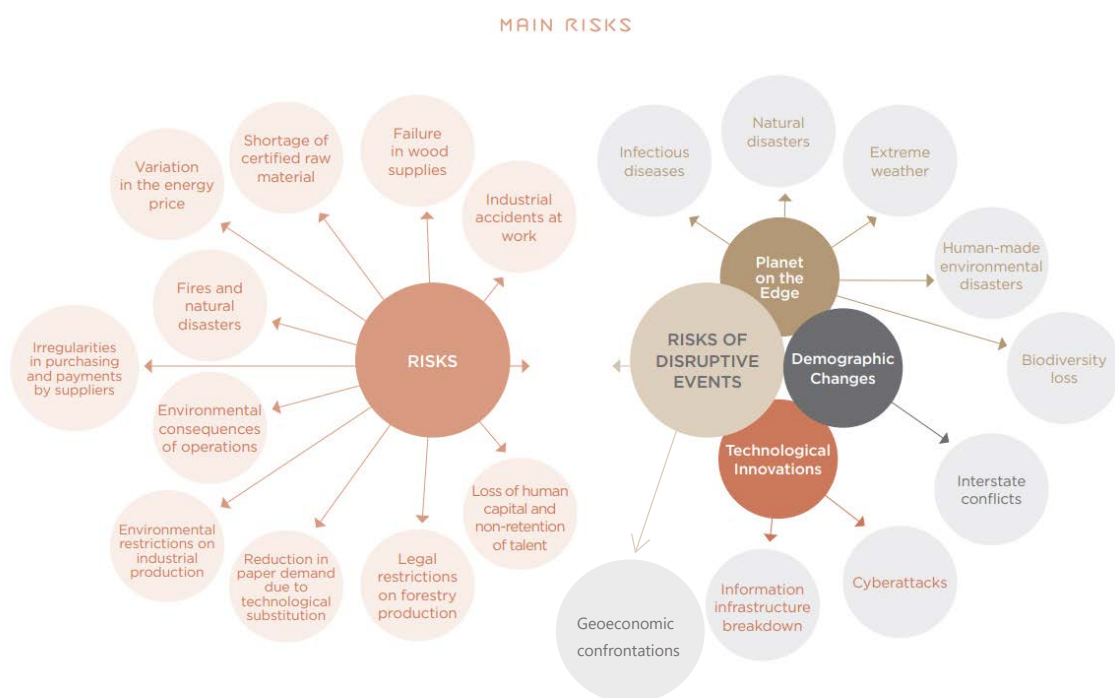
Navigator's business is subject to the occurrence of disruptive events that require immediate action to mitigate their potential negative effects. According to the Global Report 2022 from the World Economic Forum, the risks that may affect the world most severely over the next 10 years are:

- Infectious diseases
- Extreme weather
- Biodiversity loss
- Natural resources crises
- Human-made environmental disasters
- Social cohesion erosion
- Geoeconomic confrontations

In the short term (0 to 2 years), the following risks are identified as most critical:

- Cyberattacks
- Digital inequality

These risks are related to the global Sustainability trends identified as significant to the Company, in the short, medium and long term. These are Planet on the Edge, Demographic Changes and Technological Innovation, and are therefore aligned with the risks that Navigator already considers and describes in its risk management system. An example of this is the issue of climate change, which may represent a risk of extreme weather, but arises specifically in more operational risks, such as forest fires or failures of wood supply. Because these risks are directly linked, in our risk management structure, to the Company's business processes, with mitigation controls that are described and subject to monitoring, climate change risk is dispersed along multiple fronts in the risks identified at Navigator, and which it intends to anticipate.



Low ESG risk rating

<<Lowest class of ESG risk by Sustainalytics >>

Navigator is evaluated annually by the specialist rating agency Sustainalytics, which analyses its performance in managing and exposure to ESG risks. The Company obtained a score of 14.3, representing an improvement on the previous year (17.2), allowing Sustainalytics to place Navigator in the lowest class of risk, considering not only its exposure but also how it manages these risks. The Navigator Company's rating and excellent ranking are important data that reflect its ongoing endeavours to integrate sustainability as a priority in its business model, demonstrating its

capacity to anticipate and manage ESG risks in the course of its operations. These scores are detailed in chapter 3.1. Creating Sustainable Value.

Portfolio diversification

Other factors that influence business continuity are the future of consumption patterns and the search for responses to market needs. In line with its goal of creating sustainable value and contributing to reduced use of plastics, through materials that offer sustainable alternatives, Navigator took another significant step forward in its diversification strategy in 2021 by moving into a new business area and developing a series of products aimed at the packaging segment. Using the concept "From Fossil to Forest", Navigator launched the gKraft brand of products, benefiting from 40 years' experience in the paper sector. The raw material - *Eucalyptus globulus* - serves as the distinctive element in this innovative and disruptive product that points to a new packaging paradigm. In its launch year, the packaging segment achieved sales of more than € 40 million, confirming the success of the Company's investment decision.

Supply chain resilience

The main issue faced in the supply chain in 2021 was the impact of the COVID-19 pandemic, reflected in sharp hikes in the prices of our main raw materials as a result of the impacts on industrial commodities, such as power, natural gas, petrochemicals, starch and recycled paper. Navigator's procurement efforts were accordingly focussed on the mission of ensuring that the disruption experienced in the market would not affect supplies to our mills, and on mitigating the impacts of higher prices.

Alongside this, because sustainability is a priority for the Company, the procurement sector also had an important role to play in the Science Based Targets projects, where it evaluated the carbon footprint of our main suppliers. On the basis of this research, Navigator conducted a survey of its suppliers' commitments to reducing their carbon footprint by 2030, in order to work with those who had not yet established a policy for monitoring and reducing GHG emissions.

Navigator has moved to mitigate climate risks in area of logistics by stepping up investment in rail freight, which has secured increased efficiency and a smaller carbon footprint from transportation of its finished products. As a result, growth was achieved in the volume of trains operating on the branch lines to the Figueira da Foz and Setúbal mills, and at the rail terminals in the vicinity of these sites.

<<From logistics to raw materials, Navigator has made an important contribution to decarbonising the Portuguese economy, thanks to the fact that 74% of its suppliers are national>>

3.4 BIOPRODUCTS


Why is this relevant?

Forests and forest-based industries, and the pulp and paper industry, in particular, offer a sustainable answer to the urgent need to reduce CO₂ emissions and to find alternatives to fossil-based resources (fuels, chemicals and plastics). Wood and forestry biomass can be used to obtain products equivalent to those which are currently derived from petroleum. In this context, pulp and paper mills are evolving into integrated biorefineries which, in addition to cellulose fibre, paper materials and energy, are producing biofuels, biochemicals and biocomposites. These products can directly replace similar products derived from petrochemicals or be the precursors of a vast group of materials that include biopolymers and bioplastics, among other things, all from renewable sources and potentially biodegradable. This is happening at Navigator.

Our impact

The current model of economic development has a significant impact on the health of our planet because it is based on an extractive rationale, in which natural resources are used as if they were infinite. To counter this, we need to implement the principles of the circular bioeconomy, based on renewably based solutions. Navigator has an important role to play in this process and has invested in innovation in order to find viable solutions, taking advantage of the potential offered by woodlands, the main source of its raw material.

Bioproducts accordingly offer a way of minimising the impacts of an unbalanced economic model, by providing alternatives, for example, to fossil-based resources or by substituting products with renewable solutions found in nature. These alternative products are playing an active role in building sustainable business models.

 A RESPONSIBLE BUSINESS			
Commitments	Goals 2030	2021	2020
1. Develop sustainable bioproducts, reducing dependence on fossil resources and working towards a decarbonised economy	1.1 Develop new cellulose materials and composites, which are recyclable and biodegradable	New biocomposites made from cellulose fibres and bioplastics - new patent filed	Targets set in 2020
	1.2 Develop biofuels, bioplastics and biochemicals from forest residues	Integrated process for extracting bioactive compounds from eucalyptus biomass - new patent filed	
2. Promote scientific and technological co-creation in the field of the bioeconomy and bioproducts	2.1 Strengthen partnerships with Universities and Technology Centres in Portugal and abroad	Consolidate partnership with Bioref and AlmaScience Collaborative Laboratories	
	2.2 Promote advanced training, in collaboration with universities: 20 doctorates by 2030	25 doctorates in progress in partnership with leading universities in Portugal and abroad (essentially in connection with the Inpactus project)	
	2.3 Promote registration of intellectual property: 20 patents by 2030	8 patents filed in 2021 (out of a total of 18)	

Navigator has successfully achieved or is close to achieving aims 2.2 and 2.3, set for 2030. The Company has therefore decided to adopt two new aims:

Goal 2.2: 30 doctorates by 2030

Goal 2.3: 25 patents by 2030

2021 IN FIGURES

<< 25 doctorates in progress >>

<< 8 patents filed, out of total of 18 >>

<< Winner of 2021 Tecnical Prize >>

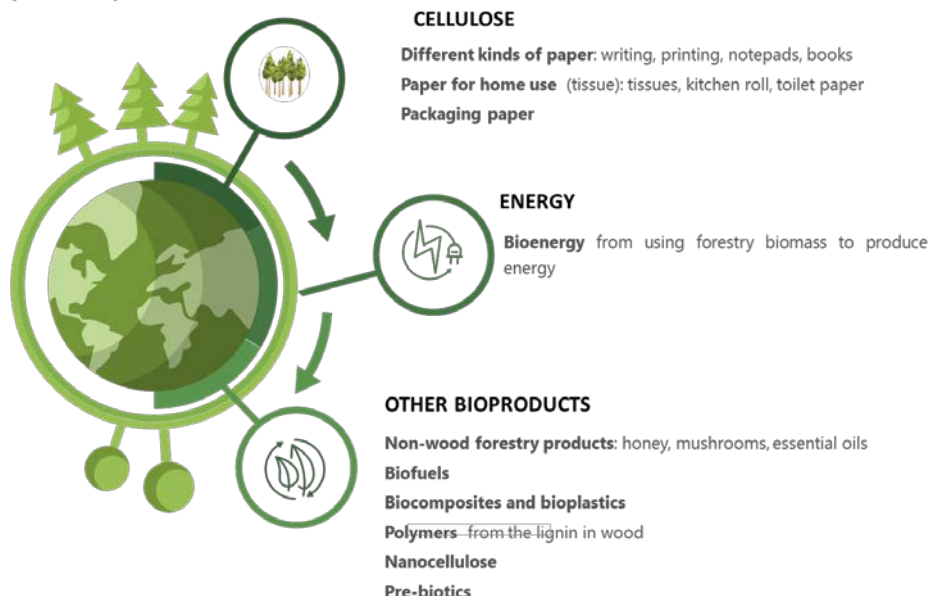
Key developments in 2021

Significant progress has been made towards a future bioeconomy and forest-based bioproducts through the Inpactus Project, due to be completed in 2022. This research

and development programme has supported business in pulp, UWF paper and tissue, and most recently in packaging paper.

A number of promising projects are currently at different stages of technical and economic evaluation. The research areas include sugars, bacterial cellulose and bioethanol from forestry biomass, biocomposites from cellulose fibres and bioplastics, prebiotics from white pulp, bioactive compounds from biomass, applications for lignin in foams, adhesives and cements and separation and recovery of the biomethanol produced in the kraft process.

THE PRODUCTS THAT EUCALYPTUS GIVES US in the Pulp and Paper sector



Bioplastics from eucalyptus biomass

Leftover biomass from forestry operations or from the paper pulp production process can undergo chemical and enzymatic processes, in which the by-products are sugars with the potential, for example, for conversion to bioethanol or bacterial cellulose.

In partnership with the BIOREF collaborative laboratory and Universidade Nova de Lisboa, PHA bioplastics (polyhydroxyalkanoates) have been obtained from these by-products, using bacterial processes. The process is currently being optimised and is planned to be scaled up in the near future. Production of these bioplastics will enable the development of new paper packaging materials or biocomposites, also derived from renewable and biodegradable sources, offering an alternative to fossil-based plastics.

New Pilot Laboratory for Biorefineries and Bioproducts

<<Our aim is to encourage forestry enterprise and forestry products>>

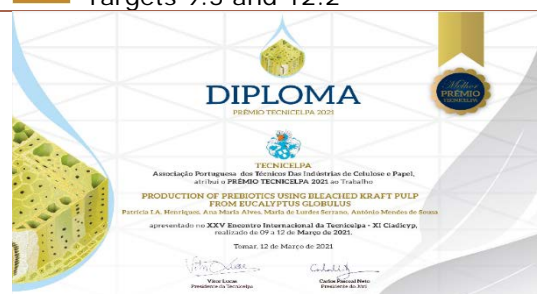
A new pilot laboratory was built in 2021 to fast-track projects in the forest-based bioeconomy/biorefinery sector and other RAIZ projects. The new facility will enable us to demonstrate and scale up processes and products, create new businesses and stimulate enterprise in the forestry sector and forest-based products. This scale is crucial for the work of RAIZ, helping to consolidate its missions as an Interface Centre and Business Innovation Centre (recognised by the European Business Network).



Prebiotics produced from white eucalyptus pulp



Targets 9.5 and 12.2



<<Winner of 2021 Tecnicelpa Prize>>

White *Eucalyptus globulus* pulp consists on average of 80% cellulose and 20% xylan-type hemicelluloses. These molecules can be broken down into smaller molecules that present prebiotic activity, and consumption can have dietary benefits, more precisely for the digestive process.

As part of the Inpactus project, RAIZ has worked with Instituto Superior Técnico to develop different approaches to obtaining these molecules, by chemical and/or enzymatic means, and has tested their bioactivity in collaboration with the University of Minho. After the prebiotic molecules have been extracted, the cellulose pulp can be reintroduced in the production process for pulp and paper, with no impact on the quality of the final product. A patent application has been filed for this process, and its technical and economic feasibility is currently being evaluated.

"Xylooligosaccharides are emerging prebiotics of great importance to health because of their antioxidant, anti-inflammatory and antimicrobial effects and their beneficial impact on the immune system. The possibility of producing them using sustainable processes makes them more competitive on the market, as they achieve the same prebiotic effect as similar products but with quantities that are three times smaller. Their wide spectrum of applicability includes pharmaceuticals, food and animal nutrition."

Ana Alves, Professor at the Department of Chemical Engineering, Instituto Superior Técnico, University of Lisbon

Publication “CEO Guide to the Circular Bioeconomy”

In 2021, BCSD Portugal published the "CEO Guide to the Circular Bioeconomy", designed to explain the concept of the Circular Bioeconomy and the opportunities it offers to the private sector. As one of the signatory companies, Navigator contributed by sharing an example and by participating in one of BCSD Portugal's "Online Sustainability Chats".

Consult the document (QR Code: <https://www.wbcd.org/contentwbc/download/7723/122348/1>)

3.5 INNOVATION, TECHNOLOGY AND R&D

Why is this relevant?

Scientific and technological expertise is the foundation for the competitiveness and success of large industrial ventures. Aware of this fact, in 1996 The Navigator Company took the pioneering step in Portugal of setting up its own R&D centre (RAIZ), in partnership with three Portuguese universities. The expertise generated in forestry, processes and products, in many cases on a co-creation basis between RAIZ and its partners in academe, has had a direct impact on the Company's business, in particular by: a) increasing yields, resilience and sustainability in Portuguese forests, b) developing innovative, competitive and sustainable products, and c) promoting the circular economy and efficient use of resources in the industrial process.


Innovation and technology, firmly anchored in Research and Development activities, are the foundation of Navigator's business, ensuring that its products and processes are sustainable.

Our impact

This is a strategic area for Navigator because it seeks to respond to business needs, by making the Company more competitive, thanks to better processes and development of new products, and by making it more sustainable, because it reduces the impacts that Company operations may have on the environment.

In the development of new products, Navigator's R&D sector has researched alternatives to fossil-based materials and also to products with a large environmental footprint. The focus has been on nurturing the bioeconomy and generating positive impacts, enabling us to offer more sustainable solutions to consumers.

In order to improve processes, the Company has invested in optimising yields from planted forests, generating benefits in their maintenance and securing returns on the area used; this enables us to produce more and produce better. The same rationale underpins innovation in manufacturing processes, which makes it possible to increase output whilst using less resources and generating less waste.

 A RESPONSIBLE BUSINESS			
Commitments	Goals 2030	2021	2020
3. Promote improved yields, resilience and sustainability in Portugal's forests	3.1 Develop genetically improved plants, clones and seeds based, with gains of 30-50% in yields and enhanced resilience to climate change	2 new improved clones offering gains of 40% in tons of pulp / ha in relation to woodlands without genetic improvements 2 kg of improved seeds delivered to nurseries, with gains of 25% in relation to traditional seeds	Targets set in 2020
	3.2 Propose biological solutions for combating the main diseases and pests in Portugal's eucalyptus forests	Release into wild of egg parasitoid (<i>Cleruchoides noackae</i>)	
4. Develop innovative, competitive and sustainable products	4.1 Develop innovative and distinctive paper products (pulp, UWF paper, tissue paper, packaging)	Launch of new gKraft brand of packaging papers 5 new tissue products (2 on market) New high yield kraft pulp for packaging	

2021 IN FIGURES

<< Investment in R&D+i stands at € 12.1 million* >>

<<25% better yields from the seeds produced >>

<< Development of 2 new products already on the market >>

*Navigator's total R&D+i expenditure based on the eligible amount for SIFIDE (the figure stated is for 2020 as the final figure for 2021 will only be established in July 2022).

Key developments in 2021

Navigator devoted attention to two vital areas: yields and resilience, not just in the forestry holdings managed by the Company, but in all eucalyptus woodlands in Portugal. It also focused on new products and their distinctive features, especially in its new business areas, tissue and packaging, as well as on efficient use of resources and environmental performance in its processes and products.

In addition to the wide-ranging expertise generated, with a direct impact on the Company's business, the Innovation and R&D sector generated 8 patents and 80 publications, demonstrating the direct or potential economic relevance of the research findings, and also Navigator's willingness to share many of them with society through publications.

Investment in woodlands yields and resilience

RAIZ has pursued two main areas of research and development: forestry and technology (processes and products). In the forestry sector, its work is centred on genetics and plant production, silviculture and forestry management, woodlands protection, new technologies and forestry development and dissemination. The bottom line in all cases is a positive contribution to forests, the main source of the Company's raw material.

One of The Navigator Company's recent areas of investment has been in the production and marketing of plants from genetically improved seeds. Production is based at the Espirra estate, in what are called the seed orchards, where the genetic material has been carefully selected by RAIZ in its improvement programme.

Work was completed in 2021 on setting up a new seed orchard, which will make it possible to increase production sixfold, as from 2024, and provide the Portuguese market with more than four million improved plants each year. These efforts have led to a significant improvement in seed quality, with demonstrated gains in yields of approximately 25% in comparison with traditional woodlands and has complemented the production of selected clones.

With the aim of achieving optimum health in well-adapted forests, Navigator and RAIZ have worked in partnership with the Instituto Superior de Agronomia (School of Agriculture) and ALTRI on a new biological solution for combating one of the main pests affecting eucalyptus forests, the bronze bug. This research culminated with releasing a natural enemy (a parasitoid) into the wild, where it is expected to succeed in controlling this pest and significantly reducing the damage caused to plantations. In advance of the release, it was necessary to submit proof to the national authority that the introduction would have no impact on local biodiversity.

Optimised use of resources in pulp production

Optimised use of resources in pulp manufacture is crucial to the Company's competitiveness and environmental performance, as detailed in chapter 4.1 Responsible Use of Resources.

RAIZ was involved in 2021 in a series of corporate projects to this end, most notably to optimise wood consumption and reduce water use in the cooking process, bleaching and production of UWF and tissue paper, a central objective of the Programme for Reducing Water Use (PRWU). Efforts are also ongoing in the area of process waste (the corporate Upcycling project), from two perspectives: 1) generating less waste (internal measures) and 2) recovering waste for new applications, in a circular economy setting. Success has been achieved here in incorporating inorganic waste in bituminous materials (road pavings) and concrete (civil construction). These two applications, developed in partnership with universities and other companies in the European PaperChain project, have reached the industrial pilot phase.

R&D leads to new products

Over recent years, RAIZ has consistently made a significant contribution to the development of innovative processes and products that respond to specific market needs and are also aligned with our sustainability goals. With its mission of furthering sustainable development and the bioeconomy based on eucalyptus forests, RAIZ has again deployed a team of highly skilled professionals to develop a concept that culminated in an innovative tissue product encapsulating the slogan of "less is more". The result is a new toilet paper range, Amoos Naturally Soft™.



This concept emerged in the course of the Inpactus project when researchers looked for a different use for the raw pulp produced by the Company. Because of its characteristics, this pulp has the potential for improving the key properties of the end product (softness and absorption). In addition, because this is a raw pulp, which has not undergone a bleaching phase (meaning less chemicals and water are consumed), the resulting product is more environmentally friendly. This is accordingly a product that conciliates customer satisfaction with the bioeconomy.

To learn more about the technology in Naturally Soft™: QRcode link <https://amoospaper.com/en/personal-and-home-hygiene/higiencios-casa/-486>.

New high yield pulps and papers for packaging

Target 9.1



<<From Fossil to Forest>>



In 2021, The Navigator Company launched a new range of packaging papers as part of the wider diversification and growth of the Group's business portfolio. Encapsulating the "From Fossil to Forest" strategy, the gKraft brand is one of the most important launches in Navigator's recent history, because it highlights something fundamental and disruptive: it shows how innovation is necessarily the way forward when we seek sustainability that is lasting and relevant to people's lives and to their future. In particular, by offering an alternative that makes it possible to reduce the use of fossil-based materials, such as plastics, and replacing them with renewable and sustainable forest-based materials, like the paper featured in these new packaging solutions.

RAIZ was actively involved in developing this new range of products, which also includes brown papers produced from a high yield pulp that uses less wood. The first laboratory trials carried out at RAIZ pointed to the potential of these pulps and to their potential use in producing packaging papers. The production specs were accordingly optimised at the pilot facility and then scaled up for production at the mill, leading to the launch of the new paper range. Three patent applications were drawn up as a result of this work, one already filed and two at the filing stage.

"The recent launch of the gKraft brand is proof of The Navigator Company's commitment to contribute to growing use of recyclable and/or biodegradable products obtained from sustainably managed woodlands in Portugal. In this context, the use of eucalyptus to produce high yield kraft pulps, consuming less wood, and the use of these for the packaging sector, historically dominated by the use of long fibres, bears witness to the Company's determination to remain at the cutting edge of a highly competitive sector, and to do this consistently in a mutually beneficial partnership with organisations in the scientific system and on a scale that has an impact well beyond Portugal's borders."

Paulo Ferreira

Professor of the Department of Chemical Engineering, University of Coimbra

See the presentation video for the gKraft brand (QRcode <https://www.youtube.com/watch?v=L2X75LXMf08>)

Technology as a tool for sustainability

Navigator took part in the 2021 edition of Building the Future, an event exploring the digital transformation. The Company was represented on a panel discussion on sustainability and technology ("Building the Sustainability Ladder") organised by Microsoft.

The debate looked at issues concerning how technology can be/is an enabler or accelerator of sustainability in companies/value chains/industries.

In its contribution, the Company showed how technology can (and should) be the common denominator between Competitiveness and Sustainability. Using the example of several technology projects and ventures in which Navigator has invested, in forestry and the bioeconomy, as well as in manufacturing, it was possible to demonstrate how technology helps to promote economic use of resources, optimise processes and manage the risks and potential impacts of activities, and also how it underpins monitoring tasks and reporting, as well as several projects at the interface with external stakeholders.

4. A BUSINESS RESPONSIBLE FOR NATURE





ASSOCIATED MATERIAL TOPICS

- Responsible Use of Resources
- Sustainable Forestry Management and Conserving Biodiversity
- Circular Economy

OUR COMMITMENTS

- 5 Promote efficient use of resources, minimising our ecological footprint
- 6 Ensure sustainable use of land and forestry resources, including biodiversity
- 7 Promote circular bioeconomy, prioritising R&D solutions

AMBITION: PRESERVE AND ADD VALUE TO NATURAL CAPITAL

Invest in adding value to natural resources. Protect, water, air and the forest, promoting generation of economic, environmental and social value, by minimising the ecological footprint and optimising efficiency in the use of resources. Nature - source of economic wealth and social development, home to life and biodiversity, a factor of environmental quality and a crucial element for human life - is a strategic priority for Navigator.

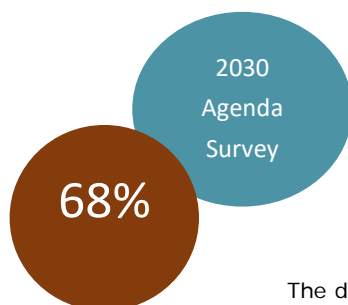
CORE



SUPPORTIVE



OTHER



68% of our Employees identify themselves a lot with protecting and improving the natural world, and with generating value by minimising our ecological footprint and optimising efficient use of resources.

The data on the opinions of our Employees concerning the 2030 Agenda set out in this Report was based on 856 responses out of 3,232 Employees (permanent workforce in 2020).

4.1. RESPONSIBLE USE OF RESOURCES

Why is this relevant?

The environmental problems we face at a global scale are largely the result of human over-exploitation of natural resources, such as (fossil) fuels, minerals, water, soils and biodiversity. It is increasingly clear that the existing model for economic development, based on intensive use of resources, is unsustainable in the long term, because of its impacts on the environment. Resources are fundamental for many different functions on Earth, and The Navigator Company is highly conscientious in its use of natural resources. Our focus is therefore on reducing their use, on minimising losses, from the standpoint of efficiency, and on reducing emissions.

Efforts to preserve the environment are based on a culture of risk and opportunity assessment, as reflected in the Company's Agenda 2030, and on operational projects and activities intended to reduce the environmental impacts of our operations on local communities. In the name of transparency, we disclose key information about our environmental management, seeking to help build correct Stakeholder perception of The Navigator Company's performance.


Our impact

The Navigator Company's responsible use of resources is based on identifying and managing material adverse effects and maximising the material beneficial effects, thereby minimising the impact as regards depletion of resources. For this purpose, environmental issues are identified at each stage of the value chain, looking in particular at: use of resources, air emissions, noise, water emissions and production of waste. We also assess the beneficial environmental aspects of using resources with heat potential, such as internally generated biomass and black liquor, used as alternatives to fossil fuels.

Mindful that water is an indispensable resource for life on the planet, The Navigator Company takes a highly conscientious approach to using this resource. The management measures adopted have been successful in substantially reducing the specific quantity of water used at our industrial units. Through targeted implementation of its Programme for Reducing Water Use (PRWU), The Navigator Company has maximised reuse and reclamation of process water, as well as managing and optimising this resource in all industrial activities. Similarly, steps have been taken to make more efficient use of energy resources, by implementing the "Energy Efficiency Programme", which endeavours to improve performance in using these resources.

In the case of wood, the renewable raw material on which our products are based, there are several projects with the aim of minimising losses and consequently increasing the yields from this resource. Most significantly, new equipment has been installed to improve efficiency in preparing wood, on fibre lines and in the paper machines.

The Company's policy on responsible use of resources is premised on participation in research and development projects with a view to adopting the best available techniques in the sector. Our focus is on developing and incorporating technologies and techniques that protect the environment and prevent pollution, that eliminate hazards and minimise health and safety risks, that improve energy performance and that optimise processes, products and services. The areas of action described above are examples of this policy.

 FOR NATURE			
Commitments	Goals 2030	2021	2020
5. Promote efficient use of resources, minimising our ecological footprint	5.1 Cut specific water use (m ³ /t product) by at least 33% by 2030 (baseline: 2019)	20.9 m ³ /t (6.7% reduction in relation to 2019)	22.7 m ³ /t
	5.2 Optimise energy intensity, year after year	12.5 GJ/t	13.4 GJ/t
	5.3 Propose solutions that make it possible to improve efficiency in use of water and wood in the industrial process	Implementation of PRWU Projects implemented to minimise wood wastage	

2021 IN FIGURES

<<Effective saving of 6.7%
in water use per ton of
product (baseline: 2019)
>>

<< € 98,000 in annual
savings due to energy
efficiency measures >>

<<Reduction in energy
consumption by 0.9 GJ/t >>

Key developments in 2021

In line with its commitment to responsible use of resources and to minimising its ecological footprint, The Navigator Company pressed ahead in 2021 with various plans to improve and optimise how it uses resources. By overhauling the management of its Programme for Reducing Water Use it was able to carry out and conclude a wide range of initiatives to optimise processes, at each of The Navigator Company's industrial complexes, dealing in particular with recovery of process waters so as to minimise intake volumes and also effluent discharges. In the energy sector, the Company has continued to invest in measures to improve energy efficiency, at the same time as increasing its consumption of energy from renewable sources. Optimisation of wood processing was another focus area for efficient use of resources in 2021.

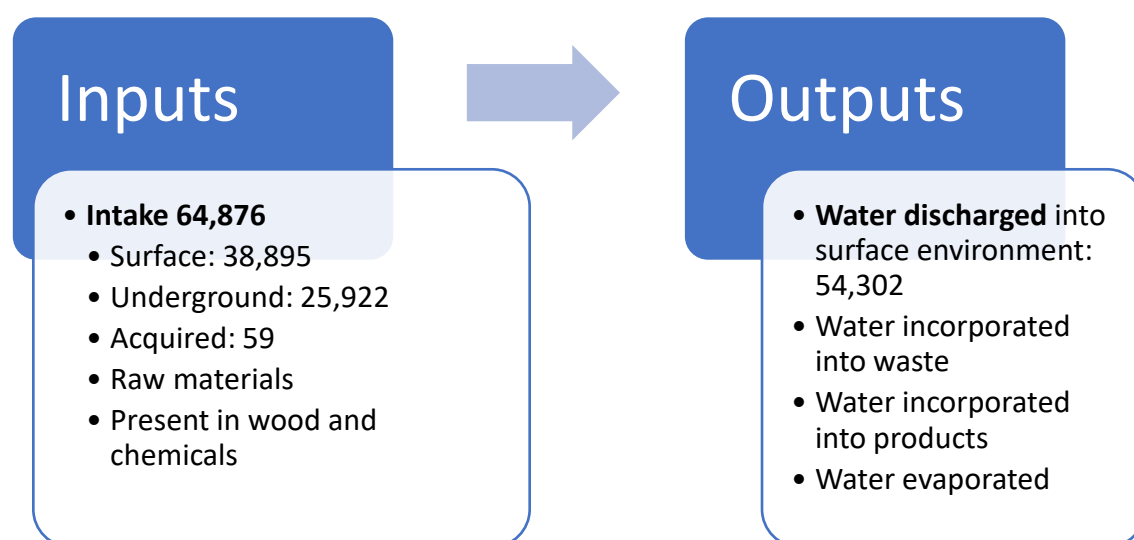
Implementation of PRWU

Climate change and the ever longer periods of drought affecting southern Europe have put additional pressure on water management. Water stress is a factor that can affect the well-being of communities and put constraints on economic activities. The

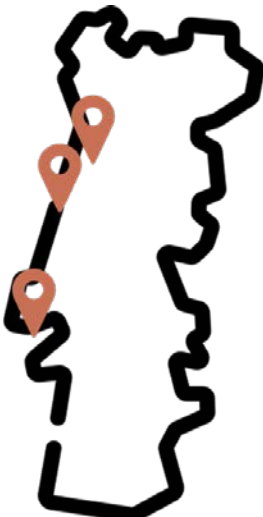
Navigator Company monitors this situation carefully by assessing the risks and constraints on the availability of water supplies for the operation of its four industrial units. This entails developing future scenarios and plans for cutting use of this vital resource. The Programme for Reducing Water Use (PRWU) is the visible face of these efforts.

Seeking to achieve the aim set out in the 2030 Roadmap, which establishes a reduction of 33% in specific water use in relation to 2019, the PRWU features an array of management measures. Top of the list are investment in more efficient equipment and in reclaiming processed effluent, enabling the Company to minimise water use and consequently reduce its intake, at the same time as cutting the volume of industrial effluent processed and discharged by each of its industrial units. To achieve its target of an overall reduction in water use per unit of output, the Company will press ahead with its endeavours in 2022 to implement the measures identified in the PRWU.

Water balance 2021 (thousand m³)



The process water balance sheet includes a series of direct and indirect intakes and outflows. The indirect volumes are those that Navigator does not control directly, such as the intake of water incorporated in raw materials, as well as outflows of water incorporated in products and waste, and evaporated water.

<p>Aveiro</p> <p>Launch of a sizeable package of measures for recovery of seal water from the vacuum pumps in two sectors (Wet sectors 3 and 4). Implementation of these measures enables us to recover approximately 0.38 hm³ per annum for the white-water circuit in the pulp drying machines, leading to savings in the volume of water intakes of approximately 1.1 m³/tAD (tonne Air Dry).</p> <p>Other measures: Improvements in management of hot water and in the use of condensates, as well as in the hot water-cooling circuits and elimination of transfers from the towers.</p>		<p>Figueira da Foz</p> <p>Implementation of a process optimisation measure at the pulp washing phase, during bleaching stages, allowing flows to be cut by approximately 0.6 hm³ per annum, representing an estimated reduction of approximately 0.7 m³/tAD. Although this measure results in increased conductivity in the slurry pulp transferred from the pulp mill to the paper machines, this impact is minimised by controlling the pulp washing at the paper mill.</p> <p>Other measures: Recovery of sampler purges and pulp seal water.</p> <p>Reuse of treated effluent in the showers for the sludge dehydration presses, instead of "fresh" water.</p> <p>Recovery of water from washing of sand filters, at the Water Treatment Plant (WTP).</p>
<p>Setúbal</p> <p>The most significant development was the installation of a new pump enabling treated effluent to be reused in the showers on the sludge dehydration presses. This measure has permitted substitution of approximately 0.227 hm³ of water intake per annum, representing a reduction in specific use of water, at the Setúbal industrial complex, of approximately 0.42 m³/tAD.</p> <p>Other measures: Recovery of purge water from the Recovery Boiler and the Biomass Boiler; Optimisation under way of cooling circuits on Paper Machine 3; Closure of vacuum pump seal on pulp deairer.</p>		

Management of effluents

Efforts to preserve water resources include minimising impacts throughout the industrial water cycle, from intake volumes through to effluent discharges.

The PRWU envisages important measures for recovering water from treated effluent, at the IWTP (Industrial Wastewater Treatment Plant) at the unit in Vila Velha de Ródão and at WTP2 at the Setúbal Industrial Complex. An opportunity was identified in 2019 for reusing a significant part of the effluent treated at this unit, and although this project has a very positive impact, both on minimising water intake by the industrial unit, and on the quantity of effluent discharged into the Sado estuary, it also results in an increased concentration of pollutants in that effluent. This project is currently being evaluated by the Portuguese Environment Agency.

An important survey was conducted in 2021 to assess the impact of effluent discharged by the marine outfall from the Setúbal Industrial Complex. This research reflects the Company's concern to minimise the impact of its operations on marine

ecosystems, adding to the quality of the natural environment around its industrial units, in this case, the Sado Estuary.

"The monitoring of the impact of industrial discharges on the receiving environment provides reassurance for the company generating them and the authorities responsible for environmental quality. Combining a research component with the monitoring programme, as Navigator has done, provides a better understanding of the findings. This is an opportunity for the scientific community, but also an opportunity for supporting the process of continuous improvement required of business activity."

Ramiro Neves - Associate Professor, Marine, Environment and Technology Center, Instituto Superior Técnico, University of Lisbon

Carla Garcia - Laboratory and Science Manager, PhD Environmental Engineering, MAREFOZ Laboratory, MARE - Marine and Environmental Science Centre

Assessment of potential impact of effluents

Targets 6.3; 12.2 and 12.4



The hydrodynamics of the estuary explain the low impact of effluents from The Navigator Company's marine outfall, in Setúbal. The parameters indicate "good ecological status".



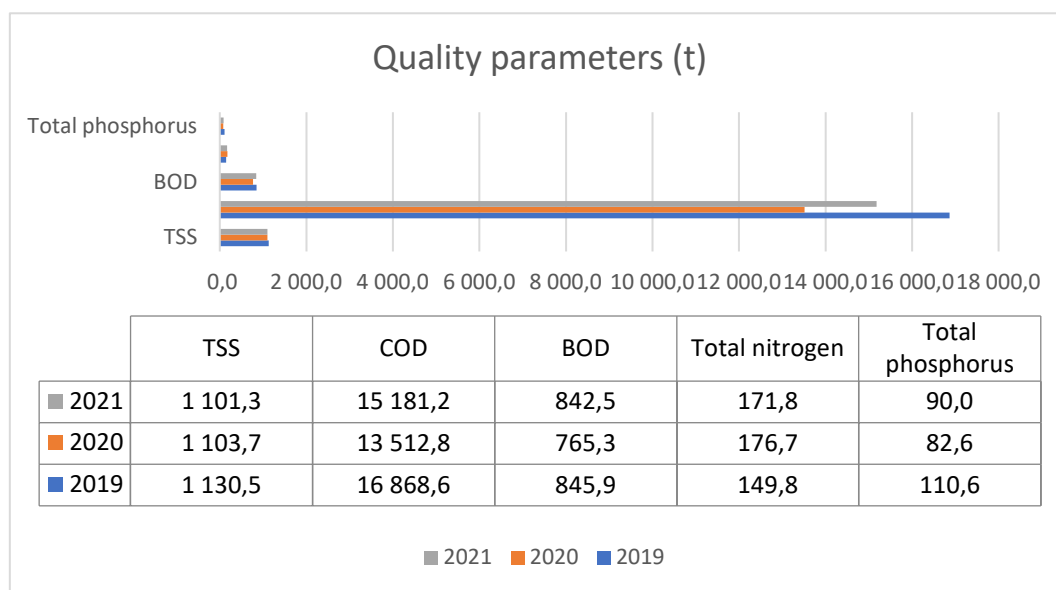
In partnership with the MAREFOZ Laboratory at the University of Coimbra and with IMAR (Instituto do Mar), at the Instituto Superior Técnico in Lisbon, The Navigator Company conducted an environmental monitoring study over a period of one year. The main aim was to assess the potential impact of effluent discharges from the Company's marine outfall in the Sado Estuary, in Setúbal.

The monitoring programme involved gathering information at two locations and led to the conclusion that the plume's impact is limited to the area close to the discharge point. Trophic activity in the estuary is not intense, and so the quality parameters (nutrients, BOD5, chlorophyll and COD) present values within normal ranges.

Modelling made it possible to interpret the monitoring findings through the hydrodynamics of the estuary, mixing processes, and the use of a model covering the entire estuary, in which another model was included to cover the area close to the outfall from the Setúbal pulp mill. The first of these served to explain the transport processes and the second to study the dynamic of the plume and the effect of wind in the area close to the outfall.

The model enabled researchers to simulate the dynamic of water masses in the estuary, and they were able to conclude that the natural conditions allow for the effluent discharged by The Navigator Company from the Setúbal Complex to be significantly diluted, through the effect of mixture in the water masses circulating in the channel, due to the effect of tides, which explains the rapid decline in concentration around the discharge point. This model will make it possible to estimate the impacts of future changes in the quality and quantity of effluents discharged into the Sado Estuary.

The study led to the conclusion that the area around the discharge point from the outfall presents "good ecological status".



Optimised wood consumption

The strategic planning underlying The Navigator Company's responsible management of forest assets allows to maximise yields from wood resources, i.e. to minimise wastage and increase the yield per cubic metre of wood used. Several projects are in progress to install more efficient equipment both in wood preparation (new woodchip piles and new debarking lines), and also in fibre lines and paper machines, implementing best available techniques that enable us to maximise efficiency in using this recourse. One important development in 2021 was the project for the new wood debarking line at the Figueira da Foz Industrial Complex.

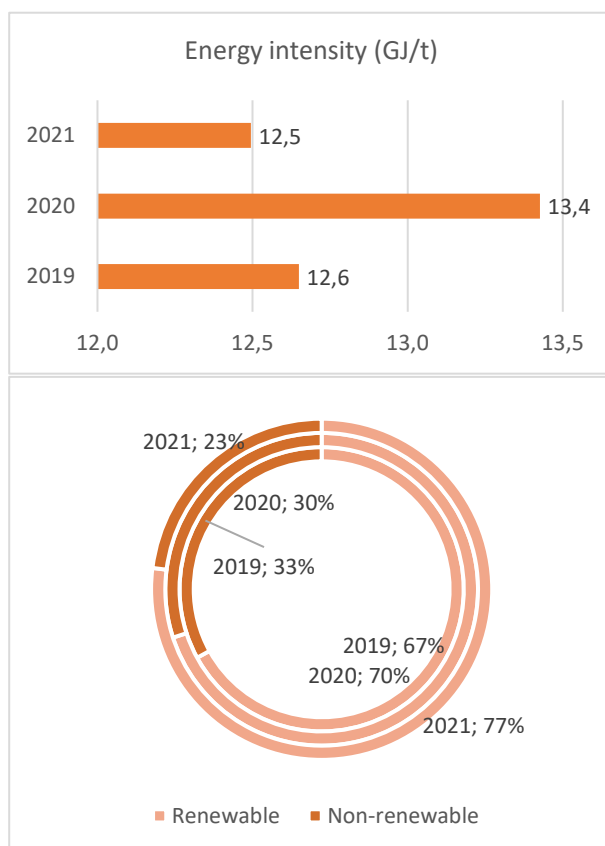
Better energy performance

Through consistent investment in solutions that promote energy efficiency, the Company endeavours to achieve constant improvements in its energy performance. In addition to certification of Navigator's Energy Management System, under ISO 50001:2018, which represents an important milestone, significant success has been achieved in implementation of several energy efficiency projects under the Corporate Programme for Energy Efficiency under way at the four industrial complexes. The initiatives described below are examples of these efforts.

Major initiatives

Aveiro Implementation of new technologies and operational changes, through process optimisation in major engines, with a view to boosting efficiency in the raw pulp washing and sieving stage, which represents the largest component of energy use at the Aveiro Complex.	Investment: € 170,000 euros Saving: € 68,000/year Reduction in consumption: 752 MWh/year
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<p>Figueira da Foz</p> <p>One of the most significant areas of energy use under ISO 50001 is the exterior and interior lighting at this industrial facility, which offers ample potential for cutting consumption. With more than 20 projects implemented to substitute the existing lighting with LED, one of the most important developments is the new project for exterior lighting in one of the car parks at the complex.</p>	<p>Investment: € 30,000 (accrued: € 600,000) Saving: approx. € 10,715/year - payback of € 30,000 in 2.8 years</p>
<p>Vila Velha de Ródão</p> <p>The headline project at this plant is the installation of a new heat exchanger in Boiler no. 2, which will make it possible to harness the heat from exhaust gases to heat combustion air. By leading to more efficient operation, this makes it possible to cut consumption of natural gas.</p>	<p>Investment: € 20,000 Saving: approx. € 10,526/year - payback of € 20,000 in 1.9 years</p>
<p>Setúbal</p> <p>At the Setúbal Industrial Complex, one of the main projects is for LED lighting in the repulping sector of paper machine no. 4. This energy efficiency project also features the use of sensors which will help to reduce the power bill for this sector and improve the technical lighting and safety conditions in this area.</p>	<p>Investment: € 25,000 Saving: € 9,000/year</p>



The success of energy efficiency measures can be seen in the performance of the energy intensity indicator, which has been brought down by 0.9 GJ per ton of output. Another important achievement is the increased consumption of energy from renewable sources, instead of from fossil fuels; renewables currently account for around 77% of total energy. The balance between power purchases and production at the solar power plants and own sales of electricity is negative, meaning that the quantity sold is greater than that purchased.

4.2 SUSTAINABLE FORESTRY MANAGEMENT AND CONSERVING BIODIVERSITY

Why is this relevant?

The conservation of biodiversity and ecosystem services is one of the greatest challenges that we face, and urgent action is needed to prevent losses. Healthy ecosystems provide a varied range of goods to meet our needs and have a positive influence on our well-being, health, and on the generation of employment and wealth for communities, in addition to being an important ally in mitigating and fighting climate change.

By having Biodiversity Conservation built into its forestry management model, Navigator:

- Seeks to ensure that the planning and execution of forestry operations results in no net loss to biodiversity values in the holdings managed.
- Implements measures to achieve net positive biodiversity gains. This has involved landscape regeneration schemes, such as the restoration of riparian galleries, i.e. riverside trees and thickets, with degraded habitats, in order to restore the services provided by these ecosystems.

Our sustainable forest management incorporates the conservation of wildlife, social assets and cultural heritage, as well as respect for the rights of workers and local communities along the value chain. Certified forest management allows us to guarantee that the wood used in our products is obtained from forests managed on a responsible basis. That is why we invest in programmes for forest certification, safety at work, technical training and support for forestry landowners and companies, well beyond the woodlands under our own direct management, in keeping with our ambition to reach a larger number of landowners and encourage them to manage their holdings in keeping with good practices and to invest in conservation of the natural and cultural heritage in our countryside.

The impact of what we do

The environmental and socioeconomic impacts of The Navigator Company's forestry activities are systematically identified and assessed, and this has resulted in matrices that are used at the planning and execution phases.


Operations have potential impacts (positive and negative) on the land managed and the surrounding area, and also on the value chain and on stakeholders with which the Company deals, from production through to the final consumer, in addition to a number of associated activities, which include production of plants, provision of services and transport of forestry products. Whilst forestry operations may cause negative impacts on local communities due, for example, to damage to public infrastructures resulting from the use of machines and vehicles, attention must also be drawn to the positive impacts, such as creation of local employment, and local economic activities connected to woodlands, such as pasturage and beekeeping.

Navigator is aware of the importance of its holdings being managed locally, so as to ensure harmonious relations with communities. Prior to operations identified as creating a more significant impact, an assessment is made of the potential specific environmental and social impacts at that site and in the vicinity, so that any negative impacts of the activity can be mitigated and appropriate steps can be taken in response to their occurrence.

Our business model is based on responsible forestry management. The commitments made in Navigator's Forestry Policy remained in force in 2021, with a view to maintaining and improving the standard of woodlands management implemented.

Consult our Forestry Policy (QR code)

http://en.thenavigatorcompany.com/var/ezdemo_site/storage/original/application/b243ea208ad5d5c3a32e812f8aa4806a.pdf

 FOR NATURE			
Commitments	Goals 2030	2021	2020
6. Ensure sustainable use of land and forestry resources, including biodiversity	6.1 Achieve 80% use of certified wood by 2030	71%	74%
	6.2 Promote chain of custody certification for all our wood suppliers by 2030	78%	74%
	6.3 Help reduce wildfires, guaranteeing a burned area of less than 1% of the woodlands under management by 2030	0.3%	0.5%
	6.4 Create positive impact on (or net gain in) biodiversity by taking action in keeping with Navigator's commitments in act4nature Portugal	See act4nature report (online)	-

In order to monitor attainment of its goals for 2030, Navigator has set the following interim targets for:

Goal 6.4:

- Implement annual monitoring plans and Biodiversity and Ecosystem Services (B&ES) conservation and restoration work in woodlands holdings managed by the Company.
- By 2022, update approach to integrating B&ES conservation into corporate strategy, in line with available scientific knowledge and voluntarily accepted commitments.
- By 2025, to establish a simplified framework, in line with the key elements of the Natural Capital Protocol, for systematic assessment of B&ES impacts and dependencies, testing the approach in a pilot project.
- By 2025, to undertake at least two partnerships with external bodies (representatives of academia, research centres, non-governmental organisations and other stakeholders) on projects for B&ES conservation at local, regional or national level or at the landscape scale.

2021 IN FIGURES

<<71% of wood used from woodlands with certified management >>

<<78% of our wood suppliers are chain-of-custody certified>>

<<53 hectares: ecological restoration of land under Navigator's management>>

Key developments in 2021

The year saw continued endeavours in the field of responsible forestry management as we worked towards the commitments made in our Forestry Policy and in the 2030 Roadmap. We again invested in support for forestry landowners, through the Premium Programme, as a way of encouraging more sustainable management of their properties and promoting certification of Portuguese wood supplies. We pressed ahead with efforts in the field of fire prevention and also in implementing the annual plans for monitoring biodiversity and ecosystem services on the holdings under our management.

Navigator was joint organiser, sponsor and an active participant in one of the panel discussions at BCSD Portugal's 2021 Annual Conference, centred on the topic of "Sustainability: challenges for the decade 20-30". Held in the wake of COP 26 and two years after the European Green Deal, the panel discussion, entitled "Acting for Nature", offered a chance to debate issues such as the challenges posed by the loss of natural assets and the role of governments and companies in the transition to a climate-neutral and nature-positive economy (<https://www.youtube.com/watch?v=65LmBGNA7Qw>)

Monitoring biodiversity in the forest

< <12% of area managed by Navigator corresponds to conservation areas > >

In order to assess the natural value of the area under its management, The Navigator Company has annual biodiversity monitoring plans that have so far identified more than 800 species and sub-species of flora and 245 species of fauna. Around 12% of its woodland holdings comprise areas of conservation interest, and 4,075 hectares are classified by Rede Natura 2000 as protected habitats. Following on from the work started in previous years, restoration was carried out in 2021 over approximately 53 hectares, in order to maintain or improve the state of conservation of natural and semi-natural habitats.

During the spring and summer, Navigator conducted monitoring on 6 properties under its management in Valongo and Monchique, belonging to the National Network of Protected Areas. In the autumn and winter, 9 nesting sites for Bonelli's eagle (*Aquila fasciata*), were monitored, and two fledglings were hatched at one of these. A black stork (*Ciconia nigra*) nest was also monitored, with successful breeding (two fledglings) and a goshawk nest was discovered, also with reproductive success.

At the start of the year, a further 20 nesting boxes were installed on one of the properties we manage, making a total of 40 boxes, to offer better breeding conditions for insect-eating species (such as blue tits and nuthatches) and also to control pests in cork oak woodlands. Most of the boxes (34) were occupied by tits (*Parus major*), blue tits (*Cyanistes caeruleus*) and nuthatches (*Sitta europaea*). You can find more details on the result of these monitoring plans in Navigator's annual report for act4nature Portugal.

Ecological restoration

In an informal partnership with the Faculty of Sciences of the University of Lisbon, Navigator is following through work by MSc students on biodiversity gains on land previously occupied by eucalyptus and at different stages of restoration. The aim of this partnership is to assess the results of ecological restoration activities, designed to bring about the recovery of fragments of native habitats in planted areas, as a tool for mitigating potential impacts on the biodiversity of those areas, which are located within the South-West Alentejo and Vicentina Coast Natural Park.

These fragments are particularly important in the Mediterranean context, as the availability of water in these environments is a limiting and crucial factor for the survival of many species during the summer, and wetlands may function as ecological corridors or source areas for the colonisation of new habitats. Preliminary results show that restoration areas present average intakes of 5.5 individuals per site, as compared to 3.5 in eucalyptus forests, looking only at the community of micromammals.

Navigator's efforts to promote restoration of areas in the Monchique Special Birdlife Conservation Zone was one of the case studies illustrating the supporting document for the United Nations Decade on Ecosystem Restoration prepared by the WBCSD Forest Solutions Group (<https://www.wbcsd.org/download/file/12253>).

Fire prevention and support for firefighting

Investment in forest fire prevention and support for firefighting remains a crucial factor for mitigating this critical risk for the Company. In 2021, this investment totalled 4.32 million euros, of which:

- 1.94 million euros was channelled to operations to reduce the fuel load in wooded areas, including building and improving paths and fire breaks; and
- 2.38 million euros went to the work of AFOCELCA, an organisation of paper sector companies, to support efforts to fight any fires that might occur in areas under Navigator's management, in the largest private contribution to forestry protection operations in Portugal.

Our work in the field of Forest Fire Defence benefits woodlands in general, as more than 92% of the callouts of AFOCELCA's firefighting resources are to incidents on third party properties, in close coordination with the National Emergency and Civil Protection Authority. The close collaboration between The Navigator Company and the AFOCELCA units represents a gain for woodlands protection, thanks to the optimised deployment of resources, leading to improved operational performance. Our active policy of defending woodlands also allows for constant coordination with the different relevant stakeholders, at both local and national level.

<<AFOCELCA in FIGURES: <http://www.afocelca.com/> (QR code)

- Fire defence operations over 2 million ha in Portugal
- 192 municipalities in the AFOCELCA monitoring network in mainland Portugal

- The woodlands holdings managed by the paper industry under AFOCELCA's protection extend over 200,000 ha >>

Our forest protection strategy also includes initiatives to support private landowners, such as the Replant, Clear & Fertilise programmes, which have reached areas of more than 33,000 hectares over the past four years. The larger scale of areas under management has made it possible to avoid propagation of fires and allowed fire-fighting teams to analyse fire incidents.

One significant project in this area was the partnership between CELPA and the Municipality of Mortágua to rehabilitate a burned area in that municipal area. With an estimated impact over as many as 500 hectares, this project set about reintroducing forest management activities in the area affected by a forest fire and thereby to reclaim these woodlands for production, reducing the risk of fire. Action was also been taken in the municipality of Pedrógão Grande, under the Replant Programme, where CELPA financed rehabilitation for reforestation of two forest areas destroyed in the fire of 2017. The work was carried out on an area of over 100 ha, where the holdings of dozens of landowners were combined for a joint forestry project.

In Mozambique...

In 2021, Portucel Moçambique consolidated its strategy for Forest Fire Defence, through which it has gradually achieved a substantial reduction in the area affected by fire, from around 2,800 hectares in 2017 to 66 hectares in 2021. This was done by coordinating different approaches, including new rapid response teams, use of new forestry practices based on controlled burning, setting up beehives and agricultural buffer areas (principally manioc) around the edge of forests to encourage protection of an asset belonging to families and communities, awareness raising, community engagement and a campaign on local radio.

Forestry development programme in Mozambique

Progress was made in 2021 on implementing a Forest Development Programme, under Mozambique's Forestry Investment Project (MozFIP), an initiative of the Mozambican Government, in collaboration with the World Bank and other cooperation partners. The aim of this Programme is to promote sustainable commercial forestry plantations, on a small and medium scale, and to encourage restoration of degraded areas with native species. A total area of 2,470 hectares has already been planted, reaching 205 beneficiaries. Portucel Moçambique has continued to play an active role in planning and implementing the Programme, providing support in various forms, such as the design of the forestry model, training in management practices, handling of agrochemicals and know-how transfer, as well as the supply of improved plants at subsidised prices and access to intermediate goods.

Woodlands partnerships

The rePLANT project, for which planning started in 2019, has become the first major venture of the ForestWISE Collaborative Laboratory for Integrated Forest and Fire Management. The aim is to promote research, innovation and know-how and technology transfer, in order to further sustainable forestry management, to make the Portuguese forestry sector more competitive and to reduce the impact of rural fires. The project is



coordinated by Navigator and is set to last three years (July 2020 to June 2023), with a budget of 5.6 million euros. Supported by Compete 2020 and Portugal 2020, its agenda cuts across different areas relating to forestry and fire management, risk management, the circular economy and value chains. More details on this project can be found on the rePLANT project website: QR CODE <https://replant.pt/en/>

Navigator's has provided support for forestry landowners through several programmes, including extension and training services, as well as other programme designed to encourage adoption of sustainable forestry practices and/or training in how to obtain and maintain certification. These are:

- A premium paid on supplied of certified wood (4€/m³), applied since 2007
- Initiatives to transfer expertise in sustainable forestry management and certification to other forestry landowners and producers, and additional complementary support:
 - Tech4Forest: training on issues related to good forestry practices and occupational health and safety, among others, including distribution of information materials, such as brochures.
 - Support for forestry management and/or chain of custody certification groups.
 - Better Eucalyptus Project, in cooperation with CELPA, to provide information on good forestry practices and support for the "Clear and Fertilise" and "Replant" projects.
 - Premium Programme (see insert).
- Active participation in FSC® and PEFC initiatives in Portugal, to develop the framework of rules under both certification schemes, adapted to the realities of the Portuguese forestry sector.

Premium Programme



Targets 12.2; 12.8; 15.1 and 15.2



The Premium Programme, launched in 2018, has continued to reach out to landowners, doubling the area of woodlands support in relation to 2020.

This programme seeks to respond to the individual needs of landowners, whether wood suppliers to Navigator or not, helping them deal with the management issues they face and to see through their forestry venture. The focus of the programme is on promoting healthy woodlands managed on a responsible basis. This support has taken different forms, including help with forestry plans, recommendations on technical silviculture options, as well as good practices in forestry operations, minimising environmental and social impacts.

More than 4,500 hectares belonging to more than 250 landowners have already benefited from work under this programme, which seeks to respond to the needs of landowners and improve the management of their forests, increase yields and boost returns from eucalyptus plantations.

This initiative is cost-free for landowners and involves liaising between different organisations in the forestry sector, such as Forestry Producers Organisations and Certification Groups, seeking to provide regular monitoring of areas with a view to continuous improvement in forestry management, and to boost production of Portuguese wood. Close contacts with landowners offer an opportunity to disseminate and advance other industry projects for improved forestry management, including efforts to increase the area under certified management.

"Collaboration has been first rate and extremely useful for decision-making (...) I have to manage these woodlands and feel the need for technical support that can tell me, on a scientific basis, what is worth doing"

Carlos Carvalho Rodrigues, owner of Quinta de Santo António in Mafra and participant in the Premium Programme (excerpt from interview published in *Produtores Florestais* magazine — Oct. 2021).

Navigator is eager to foster forest yields and certification in Portugal, as a way of promoting sustainable woodlands management, which is a tool for combating deforestation. In 2021, 63% of Portuguese wood supplied to the Company was certified, and the wood from forests under our own management, in mainland Portugal, was 100% certified.

The Company remains focused on its aim of increasing the supply of certified wood, although the figures for 2021 were 3% down on the previous year. This reduction was due to the need for increased wood imports, and although all these imports were EUTR (European Union Timber Regulation) compliant, it was not possible to secure a higher share of wood with PEFC and FSC forestry certification throughout the chain.



Navigator's participation in WBCSD and BCSD Portugal

As a member of the WBCSD Forest Solutions Group, Navigator worked on preparing a video on "Choose Sustainable Forest Products", designed to raise awareness of the role of planted forests and forestry products in the context of the global agenda for sustainable development. This video underlines the fact that these woodlands are managed to preserve a balance with their natural surroundings and the trees are replanted after each harvest, meaning that they continue to remove carbon dioxide from the atmosphere, safeguarding biodiversity, ecosystems, water quality and wildlife habitats, as well as the livelihoods of local communities.

<https://www.wbcds.org/Sector-Projects/Forest-Solutions-Group/Resources/Choose-sustainable-forest-products>

This working group has once again published the results of a series of indicators demonstrating its joint performance in honouring the commitments accepted under its Forest Sector SDG Roadmap (<https://www.wbcds.org/Sector-Projects/Forest-Solutions-Group/Resources/Forest-Solutions-Group-2021-Key-Performance-Indicators-results>). These indicators include information concerning the Company.

Navigator has also continued to take an active part in The Forests Dialogue (<https://theforestdialogue.org/>) and in the Forests Forward programme, organised by WWF (<https://forestsforward.panda.org/>). These are multistakeholder platforms that contribute to debate on a variety of issues concerning forests. Under this programme, Portucel Moçambique is preparing to serve as a "living laboratory" of good environmental and social practices that combine symbiotically to protect the environment and promote community development, thereby helping to create more resilient rural ecosystems. This mission is particularly relevant in Mozambique, one of the countries most vulnerable to the devastating effects of extreme climate events, as witnessed in the Idai and Kenneth cyclones in 2019.

Navigator's work with these associations involved it being joint organiser, sponsor and an active participant in one of the panel discussions at BCSD Portugal's 2021 Annual Conference, centred on the topic of "Sustainability: challenges for the decade 20-30". It also took part in the panel discussion on "Acting for Nature", which offered an opportunity to promote the Company's stance and contribution to nature and biodiversity conservation through sustainable management of woodlands.

COMMITMENT TO NO DEFORESTATION

Navigator's commitment to responsible management of woodlands, in full harmony with their natural and social surroundings, is also a pledge to take action to counter the forces leading to deforestation and degradation of woodlands, as set out in the Forest Sector SDG Roadmap (<https://docs.wbcds.org/2020/12/WBCSD-Forest-Sector-SDG-Roadmap-Implementation-Report.pdf>), the framework roadmap that inspires the forestry sector's contribution to the Sustainable Development Goals.

In Mozambique, the Group has been active in raising community awareness. This work has been led by technical staff from Portucel and reached more than 4,000 families, with a focus on efficient land use, through employment of conservation farming techniques (instead of the traditional slash & burn techniques), and has made an important contribution to stemming deforestation and degradation of woodlands. According to figures from the World Bank, clearance of new areas for small-scale farming and the search for firewood for cooking account for 65% of deforestation in Mozambique.

4.3. CIRCULAR ECONOMY

Why is this relevant?

The European Green Deal, announced in December 2019, argues that, in order to achieve the EU's climate and environmental targets, a new industrial policy based on the circular economy will be needed.


The production processes used in the pulp and paper industry involve cycles in which substances and materials are recovered. An example of this circularity is offered by the chemical recovery cycles used by all mills producing pulp by the kraft process.

The Navigator Company adheres to the principles of efficiency and optimisation in the use of resources on which the circular economy is based. By-products and materials which cannot be reused internally, or for which the on-site capacity is insufficient, are processed through partnerships with external organisations to avoid them going to waste. The use of Navigator's by-products and/or waste materials fulfils a number of functions: substitution of raw materials, circularity of nutrients, by returning them to forests/agriculture, for example, use of waste as an innovative solution for substituting other materials and use of flue gases for capturing CO₂, which is used in producing Precipitated Calcium Carbonate (PCC). A cycle based on reusing materials to safeguard natural resources.

Our impact

Sustainable management of resources is one of the pillars of The Navigator Company's strategy for creating value responsibly and consists of identifying and managing material adverse effects and maximising the material beneficial effects, thereby minimising the impact as regards depletion of resources. Reduction of waste production is a central feature of this strategy and this has been furthered by adopting technological solutions that allow waste to be reincorporated in production processes or to be recovered internally, in particular in energy production processes. At the same time, the implementation of these processes makes it possible above all to minimise the use of virgin raw materials, to minimise wastage and effluent loads, and also to substitute fossil fuels. Because the vast majority of waste is generated in pulp production operations, improvements in the efficiency of treatment processes and systems has enabled the Company to minimise the waste produced.

However, the Company is faced with the impacts on waste generation as a result of optimisation in other phases of the production process, such as in the recent PO3 Optimisation project at the Figueira da Foz Industrial Complex. In addition to deploying important BATs (Best Available Techniques) at this complex, in particular oxygen delignification, this project has also boosted pulp output, leading to a situation where the Lime Kiln lacked capacity to process the total quantity of lime sludges generated and resulting in a surplus of this by-product. At the same time, the project resulted in reduced production of biological sludges, thanks to their recovery for energy use in the Recovery Boiler. This combination of positive and negative impacts requires the Company to make constant efforts to find solutions and opportunities for synergy and symbiosis, in order to balance and circularise the waste generated by its operations, thereby ensuring high rates of recovery.

 FOR NATURE			
Commitments	Goals 2030	2021	2020
7. Promote circular bioeconomy, prioritising R&D solutions	7.1 Recover 90%* of waste by 2030	88%	87%
	7.2 Develop sustainable applications and added value for by-products from industrial process (sludges, ash and other inorganic waste)	Increase quantity of sand incorporated in process at Secil Britas (manufacture of aggregates). Tests successfully completed on using technosoils for restoration of mining areas.	

*The target includes waste recovery through incineration with energy recovery, with the identification code of waste undergoing recovery operations (R1), in line with the applicable Portuguese legislation. This figure differs from that reported in the response to GRI 306, because this methodology classes operations leading to incineration with heat recovery as disposal operations.

2021 IN FIGURES

<<88% of waste recovered>>

<< 80% reduction in quantity of biological sludges at Figueira da Foz mill>>

Key developments in 2021

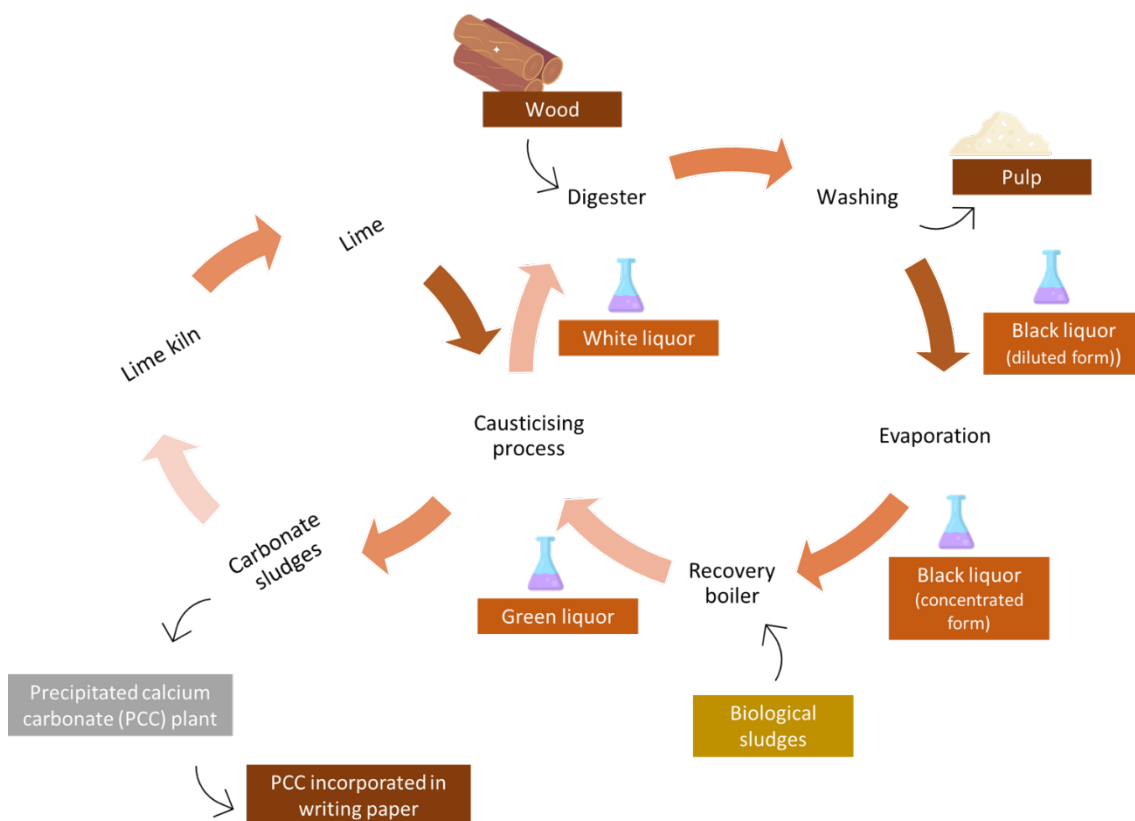
The Navigator Company aims to achieve a high recovery rate of the waste it produces, working to maintain a large and active network of contacts to boost the circularity of its materials. This process is supported by industrial synergies with other economic sectors where our waste can be used as secondary raw materials to replace virgin raw materials.

In addition to pressing ahead with the initiatives in motion, work started in 2021 on a number of strategic partnerships to find new uses for the waste generated, thereby building up the circular flows in these materials. However, as a result of the instability caused by the Covid-19 pandemic, some of these projects were understandably delayed, although progress is expected to be consolidated in the year ahead. Other important developments in 2021 included The Navigator Company's participation in the second pilot scheme for the CTI Tool developed by BCSD Portugal (Business Council for Sustainable Development), with UWF paper products, and also the decision to sign up to the Circular Bioeconomy Alliance platform.

Circularity in waste management

The Company's optimisation and improvement processes are intended to maximise efficiency in the use of materials, not just through internal processes, but also through partnerships that generate industrial synergies, extending the useful life of by-products. The circularity potential within the pulp and paper production process is considerable, provided the process is optimised and the solutions are economically

viable, which in itself places The Navigator Company in an advantageous position as regards circularity. The PO3 optimisation project at the Figueira da Foz Industrial Complex is an example that serves to demonstrate this potential, and has led to an 80% reduction in the production of biological sludges as a result of their incorporation in black liquor evaporation, with organic materials being recovered for energy in the Recovery Boiler.



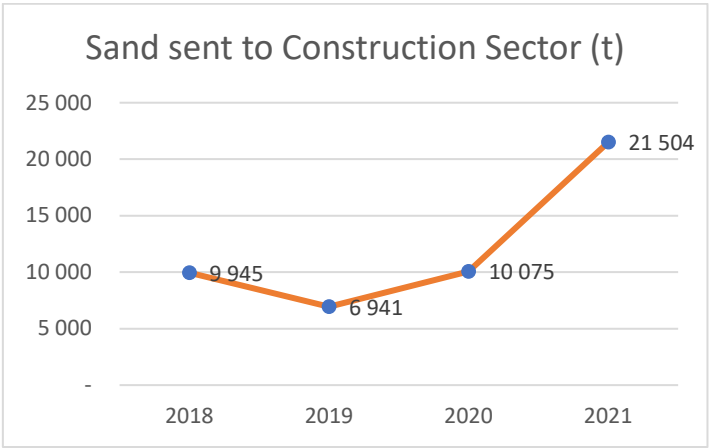
At the same time, by increasing levels of pulp output at the Figueira da Foz mill, PO3 has put pressure on the process for reclaiming chemicals. The capacity of the lime kiln at this site has proved insufficient, which has led to added production of calcium carbonate sludges. In view of the difficulties in processing this by-product, generated in the process of reclaiming chemicals, the Company has been looking for ways of incorporating the surplus carbonate sludges back into the process. A partnership has accordingly been set up with SMI (Specialty Minerals Inc), which has a facility at the Figueira da Foz site and is responsible for producing precipitated calcium carbonate (PCC), a mineral filler added to The Navigator Company's UWF paper.

<<In 2021, Navigator maintained its partnership with Specialty Minerals Inc, through which it channelled 1,650 tons of this secondary raw material to production of precipitated calcium carbonate>>

There was an important positive impact from the declassification of sands (By-product Declaration 10/2017) produced in the fluidised beds of Navigator's biomass boilers. The possibility of classing sands as a by-product has enabled them to be

integrated in other industrial processes, as a substitute for naturally obtained sands in construction materials, as for example in the production of mortars and aggregates. In close symbiosis with Secil Britas and Saint-Gobain in Aveiro, a market has been found for this by-product and the Company has widened this partnership to all its industrial plants, substantially increasing the circularity of sands and minimising the area used for landfill disposal.

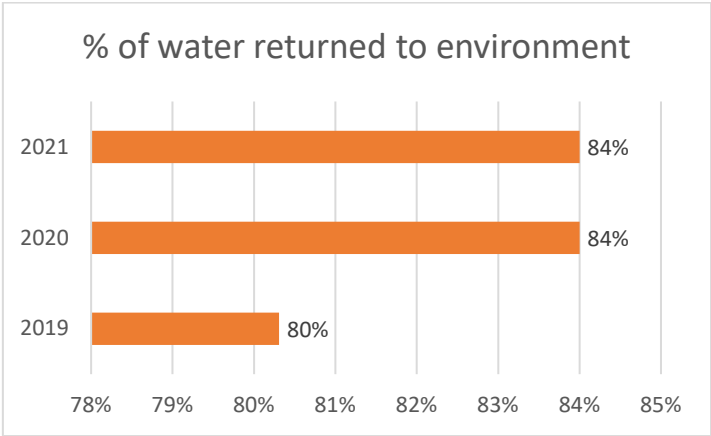
<<In the last year, Navigator has doubled the quantity of sand sent for incorporation in the construction materials industry, up by around 21.5 thousand tons>>



Circularity in water use

The topic of more efficient water use, achieved through reduction and reuse, has already been addressed in chapter 4.1 (Responsible Use of Resources), because it is related to resource efficiency. However, it should be stressed that this is also an example of the circular economy, because it makes it possible to reduce consumption of drinking water.

The Company's efforts have enabled it to minimise water use, so as to maximise the volume returned to the natural environment in the form of treated effluent. In 2021, this volume represented 84% of intake.



Technosoils - pilot project



Targets 12.4 and 12.5



A partnership that is testing the applicability of material left over from Navigator's production process, in landscape restoration at the São Domingos Mine.

The partnership with EDM (Empresa de Desenvolvimento Mineiro, S.A.) started in 2020 and was concluded in 2021, with the supply of surplus materials for soil treatment and reclamation, by formulating and applying technosoils at the São Domingos mine, in Mértola.

The technosoils were matured and spread over the two areas studied (area 1 = 0.7 ha and area 2 = 0.8 ha), and then hydroseeding techniques were used with herbaceous species and shrubs. A one-year monitoring plan was designed for both areas after the application of technosoils, which will assess the evolution of plant cover, soil characteristics and the quality of water runoff in each area. This will end in February 2022.

The first monitoring campaign pointed to fairly positive results, in particular 1) acid neutralisation capacity, with the pH of the soils rising to neutral values, 2) rapid and stable plant development, 3) establishment of a self-sustaining recovery system based on stable carbon storage contribution, thanks to carbon from the waste being integrated in the soil and then in the plant cover.

The good results achieved from this pilot project means that the same methodology can be used for soil rehabilitation in this and other forming mining areas, offering a future solution for this waste.

"In the old São Domingos mining area, the application of specific technosoil formulations containing raw materials such as waste, in a pilot area of around 1.5 ha, affected by acid drainage from the mine and multi-element contamination, has contributed to the area's recovery and development of a soil system. This project is part of the environmental restoration plan for this large mining area undertaken by EDM, and this solution may now be used over a wider area."

Catarina Diamantino

Hydrogeologist, EDM Environmental Unit

Circular Bioeconomy Alliance Platform

The Navigator Company was one of the first companies to sign up to the Circular Bioeconomy Alliance (CBA), a platform established on the initiative of the Prince of Wales, offering a conceptual framework for using renewable natural capital as the basis for managing and transforming land, food, industrial and health systems, and cities. The Company has been working on this with the European Forest Institute, which is a facilitator of the CBA. This step was particularly important for Portucel Moçambique, based in one of the countries most vulnerable to the devastating effects of extreme climate events, as witnessed in the Idai and Kenneth cyclones in 2019.



Participation in CTI Tool pilot scheme

Navigator and RAIZ have paid close attention to the importance of innovation and collaborative approaches that contribute to a more circular economy. The BCSD Circular Economy task force, of which Navigator is a member, has piloted the Circular Transition Indicators (CTI) tool, developed by WBCSD and by Circular IQ, in order to measure and quantify the circularity of products and processes in companies.

Navigator was a member of the pilot group that prepared the Portuguese version of CTI V2.0 and one of the companies that piloted the tool, involving the Company's R&D, Environmental and Sustainability sectors. The trial confirmed the highly circular characteristics of UWF paper and at the same time highlighted the importance of involving the different players in the value chain, from suppliers to waste operators, in developing circularity metrics. According to the CTI methodology, inputs are 96% circular and output has a recovery potential of 97%, leaving room for improvement. The pilot also confirmed the high level of recyclability of UWF paper and the stages of the process underpinning its circularity, given that wood fibres can be used up to 5 times (products) during their life cycle, on a cascade basis.

You can consult the case study at (QR Code: <https://www.wbcds.org/download/file/13670>)

5. A BUSINESS RESPONSIBLE FOR CLIMATE





ASSOCIATED MATERIAL TOPICS

- Climate Change and CO₂ Sequestration
- Responsible Use of Resources
- Sustainable Forestry Management and Conserving Biodiversity
- Circular Economy

AMBITION: CONTRIBUTE TO A CIRCULAR AND LOW-CARBON ECONOMY

We want to be part of the solution and have an active role in climate action, contributing to a low-carbon circular economy, based on research, technology and development. We are working towards early attainment of international targets for carbon neutrality, through the Roadmap to a Carbon Neutral Company, positioning ourselves among the corporate frontrunners in active efforts to mitigate and adapt to climate change. We contribute to a more positive climate that protects and preserves the Planet.

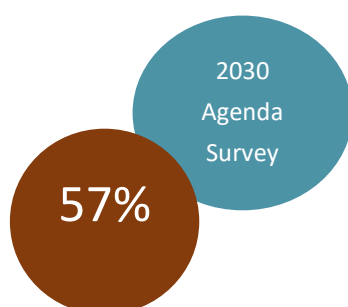
OUR COMMITMENT

- 8 Invest in low carbon solutions leading to carbon neutrality

CORE



SUPPORTIVE



57% of our Employees identify themselves a lot with the Company's active role in climate action, contributing to a circular low-carbon economy, based on research and development and on technology.

The data on the opinions of our Employees concerning the Agenda 2030 set out in this Report was based on 856 responses out of 3,232 Employees (permanent workforce in 2020).

5.1. CLIMATE CHANGE AND CO₂ SEQUESTRATION

Why is this relevant?

Climate change is perhaps the most fundamental challenge faced by modern society, as its impacts are felt across the population and natural resources. The importance of the topic has been recognised by a number of international bodies, including the Intergovernmental Panel on Climate Change (IPCC). The Paris Agreement triggered action at national and corporate level, with the aim of stabilising global temperature rises well below 2°C in relation to pre-industrial levels. In July 2021, the European Commission approved the new European Climate Law under which the political commitment made under the European Green Deal to achieve climate neutrality by 2050 is now legally binding, as is the Fit for 55 Package, the European Union plan for cutting greenhouse gas emissions by 55% by 2030, proposed by the EC in July 2021. In Portugal, a Basic Law on Climate has been approved, establishing national targets for mitigating GHG emissions with effect by 2050, complemented by an obligation to achieve climate neutrality by 2050. The law also establishes planning instruments for climate action.

As a forest-based industrial company with a leading role in Portugal in the production of renewable power from biomass, The Navigator Company is fully aligned with the importance of the issue and has conducted a range of projects and initiatives to minimise CO₂ emissions from its operations and to improve its energy performance. In particular, the Company's Roadmap to Carbon Neutrality makes a pledge to ensure its industrial complexes are carbon neutral in 2035.

A significant role is also played here by working forests, in view of their ability to sequester and store carbon. Navigator's planted forests are a major component in these wider climate efforts.


Our impact

As a manufacturing company, a manager of forestry assets and producer of renewable power, Navigator regards climate change as one of its central concerns.

The Navigator Company has taken conscious steps to minimise all the potential impacts that its operations may have on resources such as water, the air, soil and raw materials. The way to reduce impacts is to adopt responsible management of these resources, from forestry plantations through to industrial operations. Our management of these impacts is detailed further in Chapter 4. For Nature.

The Company's approach to the global fight against climate change consists of acting locally to make a global contribution. Navigator established in 2019 a plan for decarbonising its industrial complexes, which will enable it to neutralise the associated carbon emissions, as well as improving their energy efficiency and gradually phasing out the use of fossil-based energy. As well as helping to mitigate climate change, this decarbonisation plan has a positive impact thanks to the use of biomass to produce energy, reclaiming this resource and protecting forests against fires, and to the use of solar power. Another positive impact comes from the generation of power from renewable sources, for subsequent injection into the national grid.

Navigator has pledged to achieve carbon neutrality at its industrial complexes by 2035, which presupposes cutting direct CO₂ emissions by around 86%, in relation to 2018, and also increasing the use of energy from renewable sources as a proportion of the Company's total energy mix, with the aim of renewable energy representing 80% of total consumption of primary energy by the Company in 2030.

 FOR CLIMATE			
Commitments	Goals 2030	2021	2020
8. Invest in low carbon solutions leading to carbon neutrality	8.1 Cut direct CO ₂ ETS emissions from industrial complexes by 86% by 2035 (baseline: 2018)*	Reduced by 30.1%	
	8.2 Use 80% renewable energy in total consumption of primary energy by 2030 (baseline: 2018)	77%**	70%

* Emissions reported in connection with ETS

** Includes production for own consumption by the solar power plants

In order to monitor attainment of its goals for 2030, Navigator has set the following interim target:

Goal 8.1:

- Cut direct CO₂ ETS emissions from industrial complexes by 31.5% by 2027 (baseline: 2018)

2021 IN FIGURES

<<77% of power consumed is renewable >>

<<Over 21,000 solar panels installed, with rated capacity of 7MW >>

<<Cut direct CO₂ emissions from industrial complexes by 30.1% in relation to 2018>>

<< Overall reduction of 57% in CO₂ emissions at the Figueira da Foz complex >>

<<5.9 M tCO₂ sequestered in our forests >>

Key developments in 2021

As in the previous year, Navigator pressed ahead in 2021 with its projects under the Roadmap to Carbon Neutrality at its industrial complexes and also under the Corporate Programme for Energy Efficiency. The milestone achievements this year were the start-up of two new solar power plants for internal consumption, at the Figueira da Foz and Setúbal sites, and also the launch of projects that will allow the consumption of fuel oil to be phased out at the Setúbal complex. These are initiatives designed to cut the Company's scope 1 and scope 2 CO₂ emissions.

Also, in 2021, The Navigator Company carried out an ambitious project to analyse its carbon footprint, culminating in the decision to sign up to the Science Based Targets initiative (SBTi) at the end of the year. The commitment to set targets for reduction of GHG emissions, on the basis of the latest climate science, has strengthened Navigator's stance on mitigation and adaptation to climate change.

Navigator has continued to take an active part in internationally respected initiatives to scrutinise its performance on ESG criteria, and responded to the 2021 CDP Climate questionnaire, also responding for the first time to the CDP Forest questionnaire.

Further strides in the Roadmap to Carbon Neutrality

The start-up of the Biomass Boiler at the Figueira da Foz Industrial Complex in 2020 was one of the milestones in the Roadmap drawn by Navigator to achieve carbon neutrality at its industrial complexes in 2035. In its first year of operation, still with a degree of inefficiency due to operational instability, it was possible to achieve an overall reduction of 57% in direct CO₂ emissions at the Figueira complex.

In 2021, Navigator started on another project envisaged in its Roadmap to Carbon Neutrality. This project will allow to phase out the consumption of fuel oil, replacing it with less carbon intensive energy sources at the Setúbal Industrial Complex. This project includes installing a new distribution network and a boiler, which will initially use natural gas but will be prepared to burn mixtures of natural gas and renewable hydrogen. These new facilities will make it possible to cut by 28% the carbon emissions associated with the technology used.

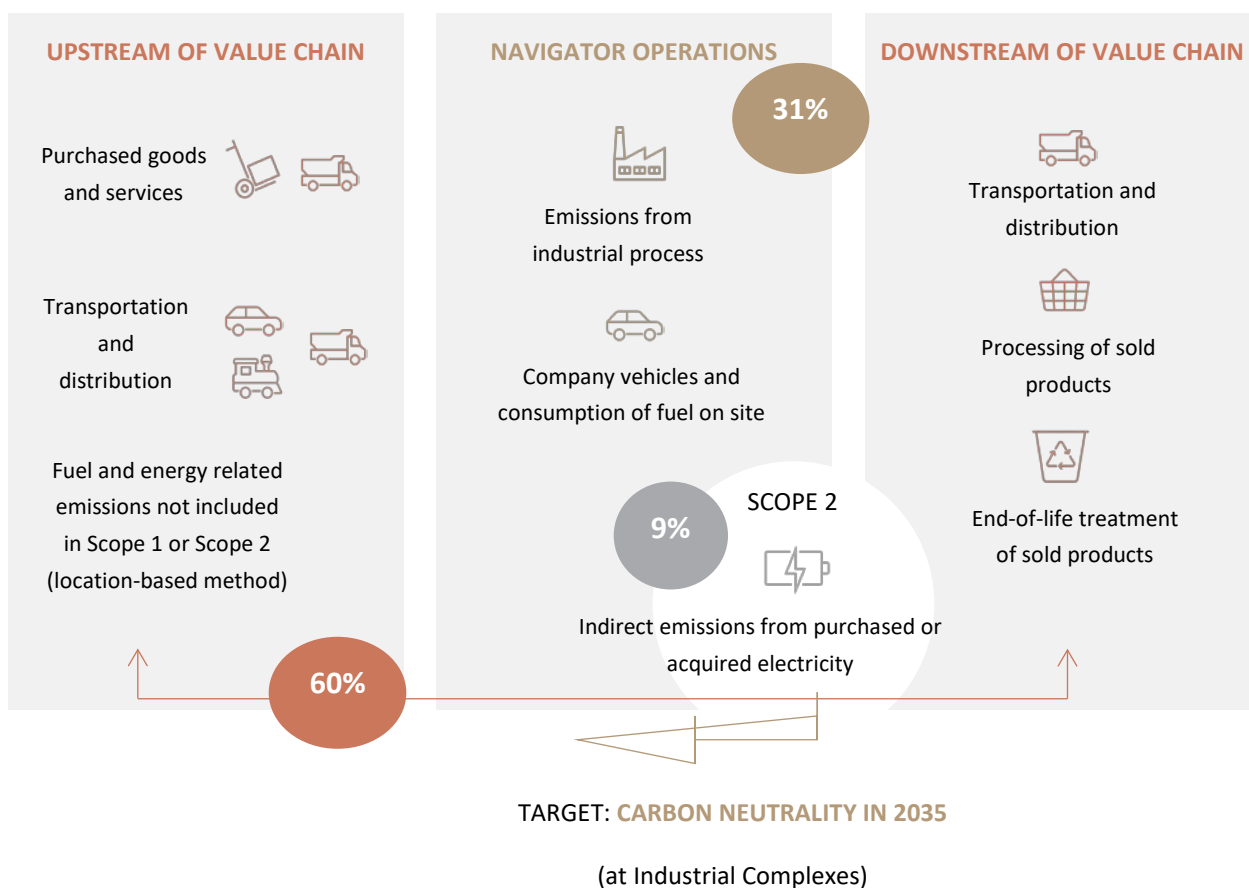
Also at the Setúbal unit, a project is under way to convert one of the lime kilns at the complex to biomass, estimated to reduce direct GHG emissions by 76%, in comparison with the existing facility. This project represents total investment of approximately 7.5 million euros. Because of its contribution to decarbonisation and its innovative character, this was one of the projects selected in 2021 out of 232 applications submitted for support under the European Commission's Innovation Fund (small scale projects). The aid agreement was signed in late 2021 and the project got going in January 2022. The conversion is expected to start up in 2025.

New approach to carbon footprint

In order to consolidate its efforts under the decarbonisation plan, Navigator decided to undertake an extensive analysis of its carbon footprint and thereby complete its inventory of greenhouse gases (GHG). This study permitted the Company to improve its inventory not only of direct and indirect emissions (scopes 1 and 2), but also of indirect emissions associated with its value chain (scope 3), corresponding to 60% of its carbon footprint. As already stated, this project culminated in Navigator signing up to the SBTi at the end of the year and submitting its targets for validation, an achievement made possible by the Company's rigorous and in-depth analysis of its carbon footprint.

This work was done in line with the GHG Protocol, already adopted by the Company in order to calculate its GHG inventory on a more comprehensive basis. Following on from application of this methodology to scopes 1 and 2 in 2021, data was gathered and emissions calculated for scope 3 (not controlled by the organisation), considering 12 of the 15 categories associated with this type of emissions. On the basis of the information available, for 2020, six categories emerge as most relevant, and are presented in the infographic below. The largest proportion of Navigator's scope 3 emissions, corresponding to 65%, belongs to the category "Acquisition of goods and services".

Navigator's Carbon Footprint



Capture and Sequestration of CO₂

One highly relevant aspect of Navigator's contribution to climate action lies in the identification of opportunities for capturing and storing CO₂ in some of the phases of its value chain, both in planted forests and in the production process, as well as in the products it manufactures and sells.

CO₂ sequestered in forests

Working forests have an outstanding capacity for sequestering carbon. As a fast-growing tree, thanks to a very high rate of photosynthesis, eucalyptus captures carbon in annual quantities significantly greater than, for example, cork oak or pine forests.

According to calculations made on the basis of data published in the "National Forest Inventory 6" (*Instituto de Conservação da Natureza e Florestas*, 2015), eucalyptus forests are the sector of Portugal's woodlands that sequestered the largest quantity of CO₂ each year per hectare: around 11.3¹ tons CO₂/hectare per annum, almost 3 times more than maritime pine woodlands (with 3.9 tons CO₂/hectare per annum) and 7 times more than cork oak woodlands (1.6 tons CO₂/hectare per annum).

Our sustainably managed forests therefore play a fundamental role in the challenge of mitigating the effects of climate change. Trees, and eucalyptus in particular, absorb carbon dioxide and store carbon, in raw materials for countless products with the potential to substitute those derived from fossil materials, such as petroleum, coal and natural gas.

Navigator currently manages 104,673 hectares of certified woodlands, responsible for the sequestration of around 5.9 Mt of CO₂ in 2021, breaking down as follows:

- Eucalyptus forests (73% of the area managed by Navigator): around 4.7 M t CO₂.
- Woodlands of cork oak, conifers and other forest species under the Company's management: approximately 1.0 M t CO₂.
- Agricultural areas, with shrubs or scrubland: approximately 157,000 t CO₂.

CO₂ captured in production process

Opportunities for capturing carbon are also identified during the production process. One of these is the manufacture of Precipitated Calcium Carbonate (PCC), which uses CO₂ released in our chimneys and is then incorporated as a raw material into paper production. In 2021, retention of carbon dioxide from fossil sources in paper products was increased by capturing flue gases for use in the PCC, and it is expected that approximately 20,000 tCO₂ will be captured annually.

¹ Calculations on the basis of "National Forest Inventory 6", Instituto da Conservação da Natureza e das Florestas (2015). The figures presented consider all area strata and all biomass components.

Biogenic CO₂ stored in products

Products obtained from wood resources, such as Navigator's pulp and paper, store biogenic carbon in their fibres, which is obtained from the CO₂ captured by trees during the photosynthesis process. This is what makes the difference between a renewably sourced product and a fossil-based product.

In 2021, the quantity of biogenic carbon stored in Navigator pulp and paper sold to the market was approximately 2.6 Mt CO₂.

Contribution from Mozambique's project

In line with the Company's commitment to carbon neutrality, Portucel Moçambique has sought to assess its contribution to carbon storage, above all in three areas: in planted forests, through preservation of conservation interest forests and reduction of carbon emissions as a result of activities in the Social Development Programme (for example, conservation farming techniques that reduce deforestation for crops and water consumption, environmental awareness raising, and other initiatives). The aim is to gather further information in 2022 and to implement initiatives that increase carbon capture, such as a project for forest restoration.

Solar plants boost investment in renewables



Targets 7.2 and 13.1

Solar energy is an important dimension of the Company's decarbonisation strategy and has also enabled it to cut energy costs

As part of its strategy for a successful energy transition, investment in solar power plants for internal consumption is today a reality at Navigator, in line with its pledge to make its industrial complexes carbon neutral by 2035.

Under the Corporate Programme for Energy Efficiency, and specifically under Focus Area 2: Promotion of new renewable energy projects, Navigator installed two new solar power plants in 2021, one at the Figueira da Foz site and the other at the pulp mill on the Setúbal complex.

The solar power plant at Figueira da Foz will be able to generate 3,500 MWh of renewable power each year for internal consumption, cutting its annual energy bill by around € 300,000 and avoiding the emission of 1,296 tons of CO₂. The solar plant at the Setúbal Pulp Mill is planned to generate 3,200 MWh each year, making it possible to avoid emissions of 1,187 tons CO₂ each year, and also to reduce electricity costs by approximately € 250,000.

These two new projects raise the total number of solar plants in the Company to five, joining those at the Setúbal Paper Mill, RAIZ and the Espirra nurseries. Rated capacity now stands at approximately 7 MW, equivalent to more than 21,000 solar panels installed. Over the course of 2021, Navigator assessed other projects for solar power, which will add rated capacity of 25 MW for internal consumption, representing a major step forward by more than trebling the capacity installed in recent years. The projects, to be installed at several of the Company's industrial units, will go into operation in 2023.

The investment in two new solar power plants will bring down electricity costs, as the generation of renewable energy means that less power will be purchased from the grid. It will also reduce scope 2 CO₂ emissions, i.e. emissions from production of electricity purchased. Production for internal consumption is highly significant, because the Company

can achieve greater control over the energy mix behind the power consumed at its industrial units, and this reduces dependence on the mix offered by the supplier. In 2021, the energy mix associated with electricity purchases, based on the location-based method of calculation, included 33% (59% in 2020) of energy produced from renewable sources. The Company follows this figure carefully because of its importance to its decarbonisation strategy. Indeed, this is one of the criteria to which CDP attaches importance in its Climate questionnaire.

<<In 2021 Navigator generated 5,310,581 kWh for internal consumption from its solar power plants, enabling it to avoid 1.6 tCO₂>>

<<Investment of 4.75M€ in solar power plants>>

Climate change partnerships

Publication “Forest Sector Net-Zero Roadmap”

The forestry sector can make a unique contribution to the transition to a decarbonised economy on three fronts: through decarbonisation/reduction of operational emissions, sequestration and storage of carbon/increased carbon removal (through forests and forestry products) and substitution/growth of circular bioeconomy, all as described in the publication entitled Forest Sector Net-Zero Roadmap, published by WBCSD/Forest Solutions Group.

QR CODE <https://www.wbcds.org/contentwbc/download/13283/194400/1>

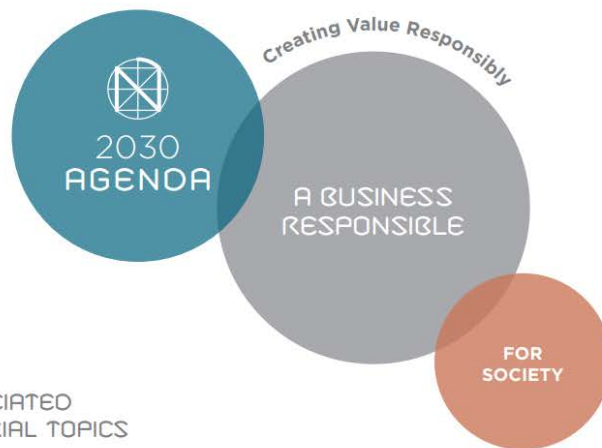
BCSD Manifesto “Towards COP26”

Navigator cooperated on drafting the "Towards COP26" Manifesto published by BCSD Portugal, a discussion document in which more than 90 companies also took a joint stance in order to draw attention to the urgency of the issue and the importance of COP26, in Glasgow. The Manifesto addresses several issues, from the energy sector to nature, ecosystem services, commitments to cut greenhouse gas emissions through Nationally Determined Contributions, market and financing rules, research, development and innovation, as well as mechanisms for a fair climate transition and plans for adaptation.

QR Code <https://bcdsptugal.org/manifesto-rumo-cop-26/>

6. A BUSINESS RESPONSIBLE FOR SOCIETY





ASSOCIATED MATERIAL TOPICS

- Talent Management and Developing Human Capital
- Health, Safety and Well-being
- Stakeholder Engagement and Community Relations
- Ethics, Transparency and Inclusion

AMBITION:
TO DEVELOP OUR PEOPLE, ENGAGE WITH COMMUNITIES AND SHARE VALUE WITH SOCIETY ON A FAIR AND INCLUSIVE BASIS

To promote the personal and professional development of our Employees, on an inclusive basis, recognising merit and ensuring their safety and well-being. To consolidate the close relations with our people and communities, sharing value and strengthening engagement, dialogue and cooperation. Now more than ever before, the mission of strengthening a business venture that creates sustainable value for society and makes a direct and active contribution to social development is based on solutions able to respond to society's needs.

OUR COMMITMENTS

- 9 Promote development and upskilling of human capital in line with the Company's present and future needs
- 10 Contribute to the skills and employability of young people
- 11 Promote an inclusive organisational culture able to integrate internal and external challenges
- 12 Provide a safe and healthy environment for Employees, ensuring their well-being
- 13 Develop community relations
- 14 Promote knowledge transfer and public awareness of the economic, social and environmental importance of forests

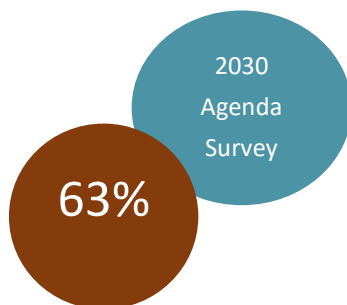
CORE



SUPPORTIVE



OTHER



63% of our Employees identify a lot with creating sustainable value for Society, developing our people, engaging with communities and sharing value with society in a just and inclusive way.

The data on the opinions of our Employees concerning the Agenda 2030 set out in this Report was based on 856 responses out of 3,232 Employees (permanent workforce in 2020).

6.1. TALENT MANAGEMENT AND DEVELOPING HUMAN CAPITAL

Why is this relevant?

Our people are our most important asset, and so Navigator has worked to promote their development, to retain staff and to ensure career progression. These are key elements for the future and for business sustainability.

We believe that our success depends on people, their development and skills. In view of the level of specialisation and technical know-how that our business requires, we recognise the crucial role of our Employees and respect the values of meritocracy, internal growth and career-long skills development.

But the future will also be built from new talent. We therefore take an integrated view of talent management, building the future by attracting and recruiting future generations, based on two pillars: a) Recognition of and transfer of know-how from experienced internal Employees, with a high level of specialisation, and b) Contributing to the qualifications and employability of young people in the regions where Navigator operates, thereby supporting the development of local communities.


Our impact

The topic of Human Capital Management is one of Navigator's priorities, and responsibility is directly allocated to the CEO. One of the main challenges that the Company faces has to do with the availability of skilled human resources in the medium to long term, a question that requires succession mapping and planning of professional careers in order to prepare Employees for future duties.

The strategy adopted to minimise the impacts of this challenge on Navigator's results therefore entails identifying future needs, promoting preparation for leadership, and developing and training Employees. Leadership is regarded as crucial for fostering a culture of development and proximity with an impact on the effectiveness of the organisation.

At the same time, the Company is also aware of the need to include younger generations and seeks to promote a balanced flow between Employees reaching retirement age and younger Employees starting out. The focus is on ensuring the sustainability of human capital by adding to the employability and high-quality training of young people in the regions where Navigator carries on its industrial and forestry operations.

The policies and management tools designed to address these issues include the Performance Management Model, the Job Family Model, Development Programmes and the Operating Efficiency Support Programmes.

 FOR SOCIETY			
Commitments	Goals 2030	2021	2020
9. Promote development and upskilling of human capital in line with the Company's present and future needs	9.1 Reach 80% of Employees with development plans customised to their needs and professional plans, in alignment with Navigator's succession needs	38% of all employees	Target established in 2020
10. Contribute to the skills and employability of young people in the regions where we operate	10.1 Have active partnerships with educational institutions in all regions where we operate in Portugal, including curricular and professional internships, as well as participation in teaching activities, events and fairs	Participation in 25 job fairs 13 partnerships with Technical Colleges, in areas around Navigator plants 30 management-level internships 60 internships for technical operatives	Target established in 2020
11. Promote an inclusive organisational culture able to integrate internal and external challenges	11.1 Continuous monitoring of the main motivational drivers for Employees, in order to implement better adjusted management practices, policies and processes	Straight to the Top Programme (communication channel for Employees' improvement suggestions)	Target established in 2020

In order to monitor attainment of its goals for 2030, Navigator has set the following interim 2025 targets:

Goal 9.1

- 60% of all Employees with Individual Development Plan (2021: 38%)
- 90% of Employees identified in lines of succession with Individual Development Plan (2021: 86%)
- 60% of Employees identified in lines of succession covered by Development Programmes (2021: 17%)

Goal 10.1

- Continue to take part in job fairs, at the same time as designing and implementing programmes for engagement with students, in specific projects run by the organisation, over the course of their academic career
- Keep the partnerships with technical colleges active and up to date, and offer at least 1 internship for each course identified as being of interest, i.e. at least 34 internships.
- Integrate 20% of internships at management level
- Integrate 50% of internships for Technical Operative positions

2021 IN FIGURES

<<Approximately 38% of Employees have individual development plans >>

<< 99% of Employees with performance analyses>>

<<41 training hours/Employee>>

<<1.24 M€ in investment approved in 2021 for Training Plan >>

Key developments in 2021

The year saw the resumption of the Development Programmes designed to empower Employees through development, retention and skills enhancement. We also continued to invest in creating proximity, through the Performance Management model, applied to all Employees, and also the Operating Efficiency Support Programmes, which include Straight to the Top, an initiative that brings Employees and top management closer together.

Navigator has maintained the organisational functions' mapping, by implementing the Job Family model, designed to add value to technical careers, through transparency and simplification. Another main focus in 2021 was on tools to enhance Employee value, such as training plans, salary progression plans and benefits.

Strategies for proximity

The Performance Management Model pursued by Navigator in 2021 is part of a wider strategy to bring the Company closer to its Employees. This model applies across the whole organisation and is intended to clarify performance expectations, boost feedback and promote continuous development. This model includes the individual development plans, which Navigator aims to cover 80% of Employees, Management and Operational Technicians by 2030.

Alongside this, the Onboarding & Integration process was revised to include a new Onboarding & Integration Guide for management.

A new version was started up in 2021 of the Straight to the Top Programme, first launched in 2017, to provide Employees with a channel for making suggestions for improvement that offer potential for generating effective benefits for The Navigator Company. The most recent version of this programme seeks to centre innovation efforts on operational efficiency, through ideas explicitly geared to generating extraordinary economic gains for the Company, either through their potential for cutting costs, or else through increased revenues.

The new version of Straight to the Top has been phased in gradually. During the pilot phase, which ran through to 31 July, ideas were solicited for the Converting sector at the unit in Vila Velha de Ródão and the Paper Production sector (PM1 and PM2) at the Figueira da Foz Industrial Complex, after which the suggestions were assessed, and trials and financial studies were prepared. Navigator plans to extend this project to other sectors of the Company.

Management of professional careers

Navigator is implementing a model that makes it possible to view tasks and responsibilities in different job categories, as part of a career management process that can add further value to careers and align individual motivation with real opportunities for progression. This Job Family model seeks among other things to offer a clear picture of the organisation's value chain, providing greater clarity concerning individual development priorities and an all-round view of possible career paths over the course of Employees' professional lives.

Advantages

- Furnish a clear view of the organisation's value chain;
- Provide greater clarity about individual development priorities;
- Offer a broad overview of possible career paths over Employee's working life;
- Use simple and uniform principles with a common language across the entire organisation;
- Provide a sound basis for placing the right person in the right job;
- Enable creation of contact networks/synergies between similar areas or areas with alike operations;
- Manage model quickly and simply, keeping it up-to-date and meaningful.

Employee Advancement

Navigator is seeking to be a top employer, which involves not only developing its Employees, but also designing tools to attract and retain talent. In 2021, Navigator launched a Salary Progression Plan for young management staff, applying to approximately 114 Employees. This programme is designed to retain management staff at early career stages, offering two progression models, one for staff joining the Company less than four years ago, and a second for staff with between four and seven years' length of service.

Seeking to make real improvements to people's lives, Navigator's benefits plan underwent positive changes in 2021. The measures implemented included better health and life insurance terms, improved allowances for the education of Employees' children and extension of sickness benefits to cover all Employees in Portugal.

Investment in training

<<more than 1.24 M€ for the training plan>>

Navigator has continued to invest in the vocational development of its people, including not only those already in the Company, but also those who may potentially join it. One important focus of action is the Skills Programme, and work proceeded on developing around 213 programmes in 2021, together with the Industrial Production Technicians Courses, in partnership with the Instituto de Emprego e Formação Profissional (institute of employment and vocational training), resulting in an integration rate of 90% of trainees. In 2021, Navigator's training plan featured options for face-to-face and online training, with around 578 courses which reached 97% of Employees. Investment of 1.24 million euros was approved in this area.

Development Programme Targets 8.2 and 8.3

Investment in Development Programmes was stepped up in 2021.

Navigator has sought to foster a broad skills base in its Employees with management and leadership responsibilities, developing relationship skills with an impact on the management of their teams. The aim involves achieving a more effective response to the following challenges:

- ✓ Dealing with the diversity of teams and seizing the opportunities this offers
- ✓ Integrating and retaining younger generations
- ✓ Ensuring early transfer of know-how
- ✓ Encouraging a working environment that facilitates the sharing of experience, learning and innovation
- ✓ Communicating the business vision and providing permanent feedforward

Initiatives in this area have included Leadership Training, the workshop to encourage feedback 360°, Training in communication styles and the Coaching Programme, all of which have been fundamental in improving the skills balance and clarifying the role expected from people in leadership positions.

Leadership Training	Workshop to encourage feedback 360°	Training in Communication Styles	Coaching programme
<ul style="list-style-type: none"> • Provide concepts and tools for leadership practices to be adopted in the field • Managing yourself • Managing relations with others • Business management 	<ul style="list-style-type: none"> • Understands Feedback 360° as a key tool for personal and professional development • Encourage sharing and action plans to build relational empathy 	<ul style="list-style-type: none"> • Valuing difference • Apply the questionnaire designed to identify the Employee's personality style from among 16 different profiles • Identify the best strategies for efficient communication 	<ul style="list-style-type: none"> • Provide personalised follow-up to accelerate the process of developing and implementing new management practices

<<In 2021 we brought these Development Programmes to around a hundred participants>>

6.2. HEALTH, SAFETY AND WELL-BEING

Why is this relevant?

Health, Safety and Well-being is a core value for Navigator. This is a key topic for boosting Employee motivation, and can lead in turn to a potential increase in competitiveness, higher productivity and, fundamentally, a lower rate of occurrence of accidents and occupational diseases.


For this reason, Navigator has invested in resources in order to equip the Company with technical skills, tools and technology that enable us to work towards preventing accidents, whilst promoting the health and well-being of all our workforce. Our slogan is clear: "We all have to return home, safe and sound, to our families!"

Our impact

When a Health and Safety culture is fully integrated, and disseminated to everyone and to all workplaces, business is conducted responsibly and this motivates Employees, improves performance and productivity and has a positive impact on results.

Despite this committed focus on Health and Safety, we experienced situations in the course of daily operational activities that led to personal injuries and material damage. The teams working on these issues investigate the causes of these events, implement preventive measures and communicate what has been learned to the organisation as a whole, with a view to constant learning and progress.

In 2021, the Executive Board approved a new Strategy for Health and Safety for the period 2021/2023, known as Mission Zero! This strategy was developed on the basis of 5 fundamental concepts: Leadership, Behavioural Programme, Operational Excellence, Skills and Monitoring & Control. Measures have been identified in each of these areas and, depending on the capacity to implement them and their impact, these have been included in an ambitious plan involving the entire organisation, from top management to sector managers, supervisors and operatives.

 FOR SOCIETY			
Commitments	Goals 2030	2021	2020
12. Provide a safe and healthy environment for Employees, ensuring their well-being	12.1 Achieve the Zero Accidents Target through continuous improvement in safety with the new OHS Strategy 2021-2023: Frequency index ≤ 2 in 2030 (internal and external Employees)	Frequency index=6.6	Frequency index=8
	12.2 Develop the Occupational Health Programme up to 2030:		
	Work Ability Index (WAI): 45% in 2030	WAI=39.8	WAI=40.04%
	Assessment of Employee satisfaction with programme > 95%	98.8%	Target established in 2020
	12.3 Develop Ergonomics Focus Area up to 2030:		
	100 workstations redesigned by 2030	23 workstations redesigned (to date)	

In order to monitor attainment of its goals for 2030, Navigator has set the following interim target:

Goal 12.1:

- In 2022, to achieve Frequency Index = 4

2021 IN FIGURES

<<870 Employees assessed in the Company's health survey>>

<<64 accidents at work (down by 18% on the previous year)>>
<<Frequency index = 6.6>>

<<More than 4,500 nutrition, psychology and physiotherapy consultations in 2021>>

Key developments in 2021

As in the previous year, management of the impacts of the pandemic on the health of all our Employees was one of Navigator's top priorities in 2021. Despite this situation, the teams remained focused on Health and Safety issues and the Mission Zero Strategy was implemented with the initiatives established in the plan. A wide-ranging survey of the health of Company Employees was conducted in 2021, including areas which have come to the fore in the last two years, such as mental health.

Response to Covid-19

The pandemic placed significant constraints on activities in 2021 and Navigator followed developments closely. The Contingency Plan remained in force and was updated several times in order to minimise the possibilities of the disease being spread and to ensure that operations continued normally. All activities require extensive face-to-face interaction were temporarily suspended and whenever possible substituted by other better suited to the limitations imposed by the pandemic. In addition to playing an active role on the taskforces to manage this situation internally, operational monitoring was conducted in the industrial and forestry sectors, including publication of a dashboard showing daily figures of active cases and persons in preventive isolation.

On course to Mission Zero

Navigator remains focused on promoting a safety culture and has accordingly designed its Mission Zero Strategy (2021-2023), communicated using a strong visual identity. The plan is monitored on a regular and periodic basis by the Executive Board, the Director responsible for this area and Company Managers.



A Monthly Safety Report has been developed as a tool for setting pro-active goals, as well as for detailed monitoring of overall results, by industrial complex and forestry sectors, flagging up causes and the main measures in progress. A review was also conducted in 2021 to standardise Safety signage, ensuring a uniform layout at all industrial facilities and in forestry sectors.

< <More than 200 safety signs disseminated> >

<<Ergonomics Project

23 workstations redesigned

Total number of interventions: 55

- Completed: 12
- At final stage of implementation: 3
- In progress: 11
- Under analysis: 29>>

April was Safety Month at Navigator, and this included a quiz entered more than 1,000 Employees. The three winners received their prizes from the Mill Manager and the Central Technical Manager.

The Ergonomics Project was consolidated at the Setúbal complex and extended to the complexes in Vila Velha de Ródão and Aveiro, as well as to the Espirra nurseries.

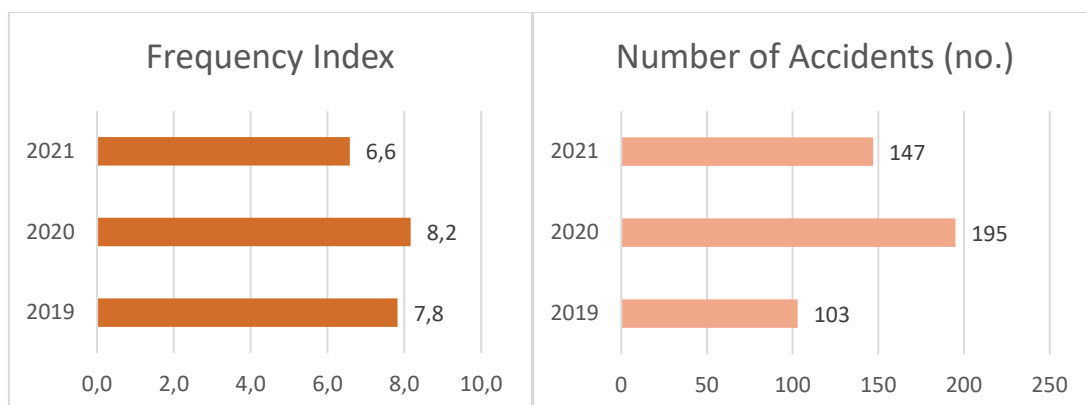
Safety in operations in Mozambique

In 2020, Portucel Moçambique started to harvest and export wood from the pilot plantations in Manica province. One of the concerns in this process had to do with the health and safety of the workers involved in these operations, given that some of these activities were being carried out for the first time. The final results were fairly satisfactory, and the Company recorded no fatal accidents in forestry operations in 2021.

Performance Indicators

The Frequency Index recorded in 2021 fell short of the objective set for 2022: FI=6.6 vs 4. This was due to a significant number of work-related musculoskeletal injuries. Closer examination of the causes showed this area to be critical, and efforts are being made to step up the Ergonomics Project, alongside follow-up and analysis by the Occupational Health (OH) team of each accident of this type recorded.

The Work Ability Index was slightly lower than in 2020. This indicator has to do with the physical and mental demands of the job, as well as the worker's state of health and resources; it was therefore inevitable that the pandemic had a negative effect, as some of the parameters have to do with levels of anxiety, ill-health and absenteeism.



Occupational Health

Navigator pays keen attention to the impacts of work on its Employees' health. In order to address these issues it provides a team dedicated to Occupational Health and curative medicine, as well as round-the-clock nursing teams in industrial and forestry sectors. All Employees have access to these services. The industrial complexes have medical units with health professionals in a range of areas, including an occupational health team (a psychologist, a nutritionist, a social worker and five physiotherapists). These teams work in partnership with the occupational health and curative medicine professionals on developing health and wellness programmes and on assessing and following up specific cases on a personalised basis.

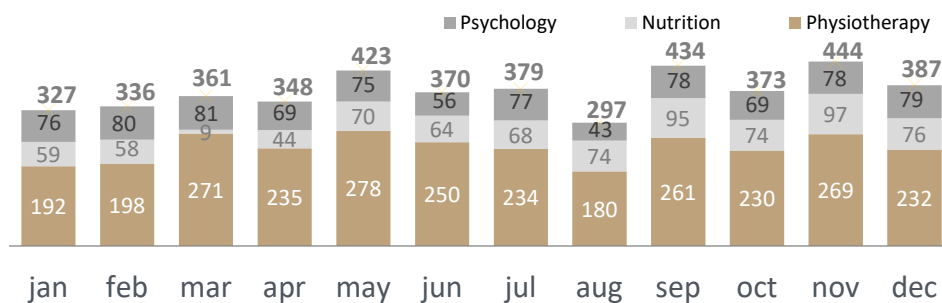
The programmes developed by the OH team address a range of issues, including sleep analysis, diet for shift workers, welfare provision and workplace exercise.

During Occupational Health and Safety month, the Company prepared and distributed educational materials on:

- **Nutrition:** Weight management and "emotional hunger" in the "new normal".
- **Physiotherapy:** Strategies for preventing and minimising musculoskeletal injuries, especially when working from home.
- **Psychology and Welfare:** The pandemic and the effects of negative emotions on health, inter-relationships and safety.

One of the milestones this year in the area of Occupational Health was the reassessment of the health of Navigator employees, with more than 870 employees undergoing assessments.

Consultations in 2021



Employees' State of Health



Target 8.8

<<Extensive health survey involving 870 Employees>>



Navigator conducted a major reassessment of the state of health of its Employees, involving more than 800 professionals.

The survey sought essentially to understand their nutritional state and diet quality, work-related injuries, level of physical activity at work and in leisure time, and work ability. Mental health issues were also considered, particularly during the severest phase of the pandemic, as well as social welfare (family situation, such as caring for others).

The findings from this broad survey led to adjustments in measures to be implemented in the field of Occupational Health over the next two years.

"This survey provided timely data on the impact of the Pandemic on the lives of employees over the past two years. Integrated action by everyone, especially the Health and Safety services in the field, had a very positive impact on protecting health, well-being and Work Ability. Occupational Health played an important role here, providing different kinds of support and follow-up for those who needed or still need help, preventing worse consequences, as was expected."

Fernando Carlos Ferreira

Occupational Health Programme – Psychologist

6.3. STAKEHOLDER ENGAGEMENT AND COMMUNITY RELATIONS

Why is this relevant?

Engagement with our Stakeholders is part of The Navigator Company's responsible management strategy, which is designed to have a positive impact on Society, seeking to respond to the expectations of the different groups of Stakeholders with whom we deal. They make sustainable value a reality, in particular in local communities, because of their crucial role for the acceptability of companies. These communities are the first link in the chain to feel the impact of our industrial and forestry operations, and so it is crucial that they should be involved, in particular in wide-ranging social responsibility initiatives, aimed at people living around our facilities and younger people, as well as those who work in partnership with us, such as forestry producers. It is this vision that we seek to transmit in our engagement with all Stakeholders.


The Navigator Company is one of Portugal's largest corporations, accounting for around 1% of GDP, and is the leading generator of value added for the Portuguese economy. With four modern and large scale industrial complexes in Portugal, and a forestry-based operation integrated with industry in Mozambique, the Company has a significant presence in several regions.

Our impact

In view of its size and importance to the economic and social fabric, The Navigator Company is responsible for finding ways of sharing value with its stakeholders, especially in local communities. As a leading force in sustainable forestry management, the Company runs a number of schemes to share this know-how, not just with younger people, in forest literacy projects, but also with specific stakeholder groups, such as forestry producers. The Company's policy attaches importance to engagement and a close relationship with all stakeholders, making active efforts to tell people what it does, sharing information and tools useful for the daily lives of the communities with which it deals: forestry producers, school communities and, from a broader perspective, society as a whole.

Another example of this commitment and interaction with stakeholders is the Pension Fund Supervisory Committee, where the stakeholders in question are the Company's own Employees.

The Navigator Company is therefore committed to creating projects that contribute to generating and sharing knowledge, and relies on a range of partners to honour this commitment.

 FOR SOCIETY			
Commitments	Goals 2030	2021	2020
13. Engage with national, international, local community and institutional stakeholders, listening to their expectations and aligning them with Navigator's strategy and needs	13.1 Hold 10 events for interaction with representatives of relevant stakeholder groups around the country, or 5 meetings of the Community Monitoring Committees in the areas around the Aveiro, Figueira da Foz, Setúbal and Vila Velha de Ródão industrial units.	<i>New commitment</i>	
14. Develop community relations	14.1 Run Forest Literacy initiatives for primary school children, teenagers and adults, in order to contribute to better knowledge of Portugal's forests, their environment, social and economic importance, through the "Dá a Mão à Floresta" (Give the Forest a Hand), My Planet and Florestas.pt projects. No. initiatives/year (digital and face-to-face): 10 . No. children reached/year: 20,000 . No. teenagers and adults contacted/year: 40,000	12 initiatives: 2 roadshows, 6 magazine editions; 3 interactive games, 5 episodes of the series <i>Portugal nas Alturas</i> , 3 cartoon episodes on SIC KIDS and 12 competitions Children reached: 8,000; 2 roadshows; 20,000 interactive games and cartoons; 14,800 copies of each edition of the <i>Dá a Mão à Floresta</i> magazine Teenagers and adults reached: 13,000 copies of each edition of <i>MY Planet</i> magazine	Target established in 2020
	14.2 Promote and disseminate technical information about forestry production, helping to share best practices, through the Forestry Producers project . No. initiatives/year (digital and face-to-face): 10 . No. forestry producers reached/year: 10,000	6 initiatives: 3 magazines with a print run of around 30,000 per edition and 3 campaigns to contract woodlands; 500 digital content items Impact on a community of 10,000 Forestry Producers	Target established in 2020
15. Promote knowledge transfer and public awareness of the economic, social and environmental importance of forests	15.1 Implement Forest of Knowledge project, in partnership with Calouste Gulbenkian Foundation	Project launched in October 2021 with initiatives in the field	Target established in 2020
	15.2 Implement the UNESCO RAIZ Club		Target established in 2020
	15.3 Develop the Florestas.pt platform	19 sessions with <i>Academia</i> 4 Newsletter's editions 18 authored articles 52 specialists involved in development technical and scientific content	Target established in 2020

		High-profile website, with prime position in Google search	
	15.4 Consolidate the <i>e-globulus</i> platform	10,500 users, 560 registered; more than 44,000 hits; new functions	
	15.5 Consolidate the Forestry Producers project	Information materials on best forestry practices, genetic materials and contracting woodlands	

In order to monitor attainment of its goals for 2030, Navigator has set the following interim targets 2025:

Goal 14.2

- 40 initiatives for contact with Forestry Producers by 2025
- Step up the impact on a community of 20,000 Forestry Producers by 2025

Goal 15.3:

- 35 Academia initiatives (digital and in-person) by 2025
- 4 in-person initiatives by 2025

2021 IN FIGURES

<<9 editions of magazines for the Dá a Mão à Floresta and My Planet initiatives, with combined print run of 127,800 >>

<< 8,000 children involved in Dá a Mão à Floresta roadshows >>

<<10,500 users of e-globulus platform>>

<< 19 sessions with academics on the Florestas.pt platform, publication of 18 authored articles and engagement with 52 specialists in building content>>

<<Mozambique Project with more than 5.5 M€ invested to date in the Social Development Programme>>

<<10,000 forestry producers impacted by the Forestry Producers project>>

<<3 technical magazines and approximately 90,000 copies distributed>>

Key developments in 2021

Navigator has remained committed to running projects in the field of Forest Literacy, despite the various constraints imposed by the pandemic situation. Online channels were therefore a major feature of the year's activities, with the development of a range of content for the different platforms: *Dá a Mão à Floresta* (Give the Forest a Hand), *My Planet*, *Florestas.pt*, the Forestry Producers Magazine and *e-globulus*. 2021 also saw the launch of the Forest of Knowledge project, in partnership with the Calouste Gulbenkian Foundation, as well as a session of the Sustainability Forum promoting engagement with relevant stakeholders, to debate issues related to woodlands protection. In Mozambique, alongside the socioeconomic impact of its project, the Company provided support for the construction of a surgery block at Ile district hospital, in Zambézia province.

Forest literacy

Because forests are the principal source of Navigator's resources, the Company attaches priority to educating the public about the benefits of woodlands and the importance to society of sustainable use of forest-based products. Children are a key target audience and it is vital to raise their awareness early in life. Hence our investment in initiatives such as Give the Forest a Hand, using roadshows, the magazine and specific content for social media, such as interactive games, the *Portugal nas Alturas* series, cartoon episodes and competitions. In 2021, this project achieved public recognition by winning the Papies'21 award, in the multi-platform category, and the animated films were broadcast on the TV channel SIC KIDS.

GIVE THE FOREST A HAND FIGURES:

2 roadshows with more than 8,000 children

6 editions of magazine, each edition with print run of 14,800

MY PLANET FIGURES:

3 editions of magazine for adult readers
print run of 13,000 per edition

Aimed at an adult audience, the *Florestas.pt* platform was consolidated in 2021 as a project for sharing information and science-based knowledge on Portuguese forests, providing clear and accessible content on the importance of woodlands and the challenges they face. A number of articles were published by leading figures in the fields of forestry or sustainability. Another new venture was the launch of *Academia*, an area given over to training content in which several authors explore a topic for 20 minutes, by providing access to the content submitted (videos and presentations) and also the publication of an online newsletter sent to more than 500 subscribers.

Transfer of forestry management expertise

Sustainable forestry management practices are one of the main causes championed by The Navigator Company. It is therefore important for the Company to share its

experience in order to encourage forestry producers, and other stakeholders in the forestry sector, to manage these resources as well as possible. To this end, Navigator has been running two flagship projects:

a) The Forestry Producers Project, with an impact on a community of around 10,000 producers. Prior to launching this initiative, market research was conducted with 378 telephone interviews of forestry landowners and/or producers, using a structured questionnaire which, in addition to characterising this group of stakeholders, sought to find out about their vision of forestry, in particular as regards the contracting of woodlands, certification, yields, income, sources of information and species planted, as well as the image they had of The Navigator Company.

From the outset, therefore, this project has sought to respond to the various needs identified through a process of stakeholders' engagement, with the aim of creating a community based on close relations with the forestry sector, in a context of sharing expertise between all the relevant players, and helping to build better woodlands in Portugal.

b) The e-globulus Platform, which sets out to encourage adoption of management practices in Portugal's eucalyptus forests, by providing technical and scientific expertise relating to forestry, as well as other content. This platform was developed by RAIZ, forestry and paper research institute, and is the subject of three patent applications (Portuguese, European and international). It has been online since late 2019.

In 2021, the e-globulus Platform was provided with new functions and content, including an audiovisual channel with additional information on land preparation options (in collaboration with the GOIEPE project, for efficient installation of eucalyptus stands on smallholdings). More than 50 news items, events and features were published, as well as important articles on technological advances in woodlands management. This tool was publicised in a number of forums, such as Tecnicelipa, AgroGlobal 2021, the ANI Newsletter, the "Woodmarkets" webinar and the Rosewood 4.0 platform.

e-globulus FIGURES:

10,500 users, 560

registered

More than 44,000 hits

Sustainability Forum

Navigator's Sustainability Forum is a sustainability governance body, as described in chapter 2, based on a consolidated model of engagement with the Company's various stakeholders. It includes a group of specialist members, with expertise in the Company's various fields of operation, and functions as an arena for internal and external dialogue. The public sessions held annually feature a range of speakers invited to discuss topics of relevance to the Company's business and to its stakeholders. The Forum embarked on a new cycle in 2021 by adopting a

decentralised model for these sessions, in order to bring it closer to local communities and to highlight the cooperation between the Company and the various municipalities where it carries on its operations. In 2021, the 12th edition of the forum was held in Torres Vedras and was given over to "Dynamic Forest Protection", featuring, among other topics, the collaborative work done in the Local Protected Landscape Area of the Socorro and Archeira Uplands. The 150 hectares managed by Navigator in this area (out of a total of approximately 1,200 ha) show that it is possible to conciliate working forests, in this case, eucalyptus, with the demands of a protected landscape area, and Navigator has pioneered collaboration with this protected landscape area, by developing training and awareness raising programmes.



The Forum has 88 in-person participating and more than 300 people attended through live-streaming on Navigator's YouTube channel. As representatives of several stakeholder groups, such as local authorities, organisations of forestry producers, NGOs and universities, among others, 92.3% of participants assessed the event very positively.

Forest of Knowledge



Targets 12.8 and 15.5

<<A real Forest laboratory set in long-established woodlands.>>



RAIZ and The Navigator Company has joined forces with the Calouste Gulbenkian Foundation for the Forest of Knowledge project, launched on 28 October 2021, with support from the UNESCO National Commission in Portugal. The aim is to educate, empower and raise public awareness of the importance of woodlands, sustainability and the forest-based circular bioeconomy, with a special emphasis on reaching young people.

Thanks to financial support from the Calouste Gulbenkian Foundation's Sustainable Development Programme, this project has made it possible to create new premises to welcome visitors and host a variety of activities. The site chosen was the historic house of

the Portuguese humanist Jaime de Magalhães Lima (the former owner of the Quinta de São Francisco), built in 1908. The renovation of this house has the virtue of restoring a building of historical and cultural importance, equipping it to play a new role in educating up and coming generations about woodlands, with a laboratory for experiments relating to forests and bioproducts, as well as an auditorium, for talks and think tanks, an exhibition area and also a co-creation area.

"The Forest of Knowledge project was selected from hundreds of applications on the basis of its high scores for "innovation" and "impact". It has gained itself a name as a place for experimentation and teaching younger people about woodlands protection issues and the forest-based bioeconomy, in line with the priorities of the Calouste Gulbenkian Foundation and the current international agenda that sees forests as taking a central position in combating the climate crisis".

Filipa Saldanha, Deputy director of the Gulbenkian Sustainable Development Programme

The Forest of Knowledge is above all a Forest laboratory set in long-established woodlands where future generation can enjoy rewarding practical experiences in the biodiverse woodlands' environment of the Quinta de São Francisco (where RAIZ is based). The premises have the potential to host more than 20 highly practical activities that will contribute to environmental education, education for sustainability and dissemination of biodiversity and forest habitats, whilst at the same time raising awareness of the importance of forests as a renewable and sustainable source of natural, recyclable and biodegradable products, including the new products developed by RAIZ. All these activities are in line with the Sustainable Development Goals (SDGs) under the United Nation's 2030 Agenda, and this project made a decisive contribution to RAIZ being included in the network of UNESCO clubs. The Forest of Knowledge is open to the general public, but is aimed in particular at the school community (from pre-school through to secondary), enabling the generations of the future to gain awareness of forestry issues, which will help to promote and protect Portugal's woodlands.

Impact of Project in Mozambique

Portucel's capex project in Mozambique is intended to drive a value chain that combines the economic scale of the project with a firm commitment to the environment and a Social Development Programme that has benefited more than seven thousand families and involved investment of more than 5.5 million euros.

The positive returns from the project in Mozambique include the generation of employment along the value chain, at different levels of qualification and vocational development, and generation of wealth and added value for the country, as well as environmental protection and investment in communities. Engagement with the project's stakeholders is achieved through ongoing communication, in particular with local communities in the project areas, traditional leaders, government bodies and civil society organisations. For example, communication with communities was a priority in connection with the harvesting and exporting of wood, which started in December 2020, in order to involve these stakeholders in the various stages of the process, some of which were carried out for the first time in 2021. Wood harvesting and export activities have had, and will continue to have, a significant impact in terms of employment and sharing value with communities, as most of the employment generated was at local level. In another important example of stakeholder engagement, the provincial governors of Manica and Zambézia visited the Company's operations, accompanied by the District Administrators for the project areas, and on another occasion the Company received a visit from the National Director for Promotion of Commercial Agriculture.

Job Creation

More than 250 direct and indirect employees:

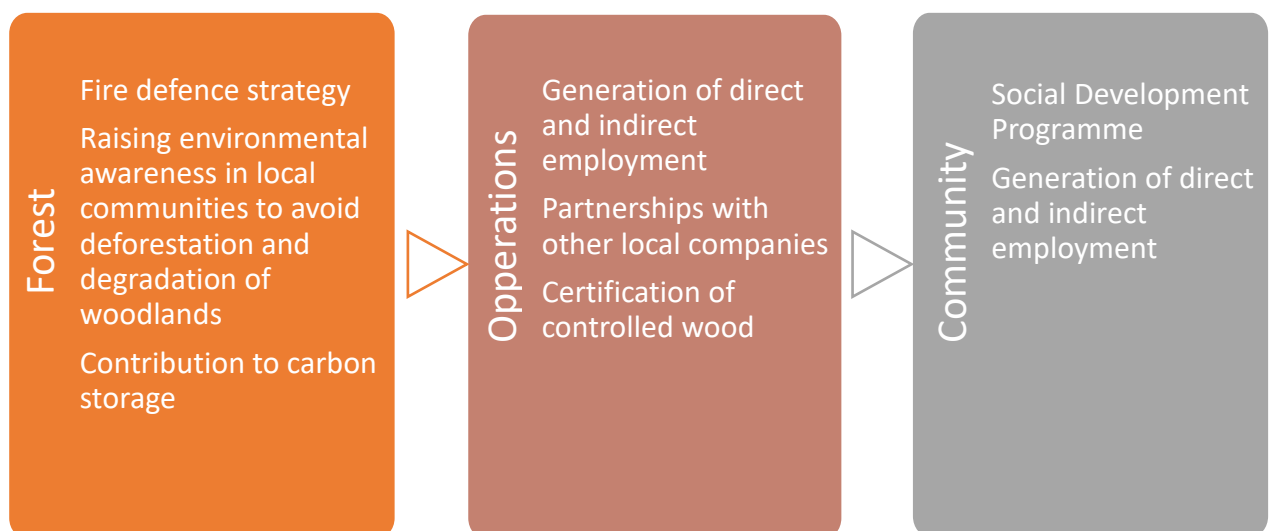
- 90% Mozambican
- 30% women

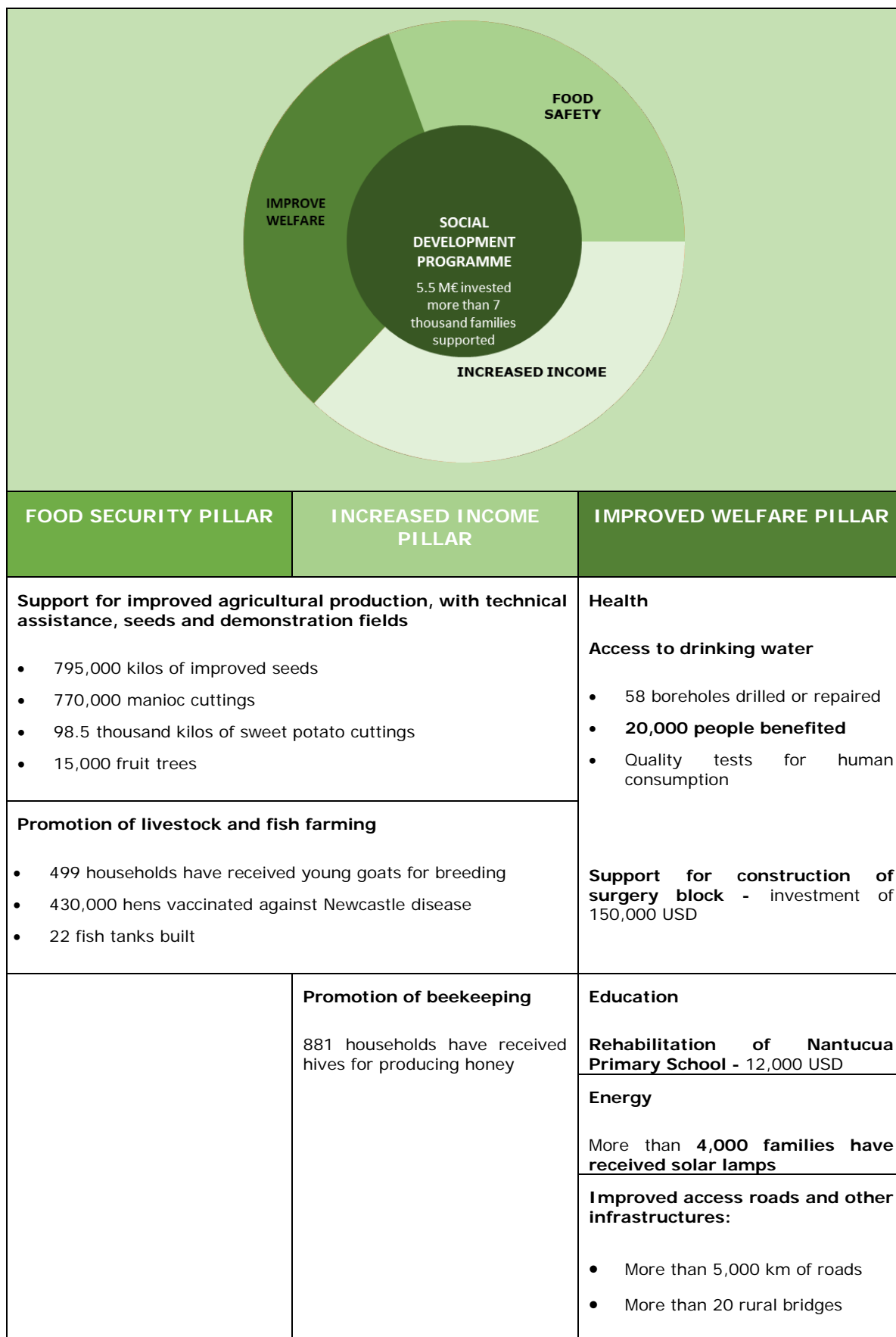
Around 1,000 jobs generated each year, in casual labour

11.3 M€ invested

(average figures since 2013)

Value chain





New surgery block at Ile district hospital

Portucel Moçambique provided aid of 150,000 USD for the construction of a surgery block at Ile district hospital, in Zambézia province, in response to an appeal from local bodies, in a district where its forestry and welfare project has been progressing with benefits for local communities. Health is one of the priorities of the Social Development Programme, as part of its focus on improving the welfare conditions of families in the project areas. Construction work started in March 2021 and will benefit tens of thousands of people.

7. OUR PERFORMANCE

Economic Indicators	2019	2020	2021	GRI
Direct Economic Value Generated - Revenues (I) (thousand €)	1,726,946	1,424,321	1,627,251	201-1
Direct Economic Value Distributed (II) (thousand €) ⁽¹⁾	1,578,711	1,320,694	1,490,485	
Operating costs (thousand €)	1,181,062	994,258	1,077,385	201-4
Employee salaries and benefits (thousand €)	144,906	131,184	154,070	
Payments to capital providers (thousand €)	218,910	212,963	167,339	
Taxes (thousand €) ⁽²⁾	48,992	55,448	90,043	
Investment in community (thousand €)	1,781	1,741	1,648	
Accrued Economic Value (I-II) (thousand €)	148,235	102,677	256,178	201-2
Financial assistance received from Government (thousand €)	12,962	12,477	7,824	
Tax Incentives / Credits (thousand €) ⁽³⁾	10,307	9,937	5,121	
Subsidies (thousand €)	221	185	143	
Support for research and R&D (thousand €)	2,434	2,355	2,560	202-1
Financial implications of climate change				
Number of CO ₂ emission licenses (unit)	267,222	516,319	620,805	
Market value (thousand €)	6,552	16,909	50,068	204-1
Ratios of standard entry level wage to local minimum wage (%) ⁽⁴⁾	-	+12	+7	
Total number of suppliers (no.)	7,454	6,756	7,172	204-1
Percentage of local suppliers (%)	76	76	74	
Total expenditure on suppliers (thousand €)	1,521,225	1,158,577	1,382,341	204-1
% of expenditure on suppliers	74	77	74	

Environmental Indicators	2019	2020	2021	GRI
Forest				
% of woodlands with certified management	100	100	100	
Wood purchased with FSC® and PEFC certification				
% national	52	61	63	
% global	72	74	71	
Materials				
Raw materials (tons)	5,101,062	4,706,846	5,064,915	301-1
Renewable	4,601,789	4,253,717	4,558,516	
Non-renewable	499,272	453,128	506,399	
% of renewable raw materials	90	90	90	
% of recycled materials used	0.05	0.04	0.02	301-2
Energy				
Energy consumption within the organization (GJ)	38,224,076	40,300,782	41,246,701	302-1
Energy consumption from non-renewable sources	12,922,614	12,264,687	9,811,472	
Energy consumption from renewable sources	25,805,941	29,101,758	31,962,573	
Total energy acquired for consumption	4,728,958	4,893,745	4,651,165	
Energy sold	5,233,438	5,959,408	5,178,509	
% renewable energy consumed ⁽⁵⁾	67	70	77	
Energy consumption outside the organization (GJ) ⁽⁶⁾	2,226,052	1,761,584	n/a	302-2
Energy intensity (GJ/t produced)	12.6	13.4	12.5	302-3
Reduction in energy consumption (GJ)	47,961	48,524	51,184	302-4
Water				
Water intake (thousand m ³)	68,541	64,563	64,876	303-3
Water discharged - effluent (thousand m ³)	55,045	54,487	54,302	303-4
Water used (thousand m ³)	13,496	10,076	10,574	303-5
% of water returned to environment	80	84	84	
Biodiversity				
Operational sites in or close to protected areas and areas of high biodiversity value ⁽⁷⁾				304-1
National Network of Protected Areas (RNAP) (ha)	10,510	10,315	10,067	
% of total holdings managed	-	10	10	
Classified sites in Natura 2000 Network (ha)	43,368	43,110	43,498	
% of total holdings managed	-	40	42	
Special Protection Zones in the Natura 2000 Network (ha)	31,396	31,631	31,657	
% of total holdings managed	-	29	30	

Environmental Indicators	2019	2020	2021	GRI
Total classified areas (ha)	53,770	53,492	53,563	
% of total holdings managed	-	50	51	
Habitats protected or restored	4,162	4,201	4,129	304-3
Protected habitats (ha) ⁽⁸⁾	4,114	4,163	4,076	
Restored habitats (ha)	47.6	38.3	53.1	
Emissions				
Scope 1 (tCO ₂ e) ⁽⁹⁾	752,023	739,799	574,199	305-1
Assets at plants (ETS scope)	752,023	706,844	541,656	
Diesel and gasoline consumed at plants	-	5,476	5,609	
Fuel for travel and kilometres travelled	-	1,991	1,950	
Natural Gas used in Biomass Power plants (auxiliary fuel)	-	2,035	2,578	
Fluorinated gases	-	1,133	1,133	
CH ₄ from combustion processes	-	4,010	1,556	
N ₂ O from combustion processes	-	18,311	19,717	
Scope 2 (tCO ₂ e)				305-2
Purchase of electrical power	-	337,184	389,776	
Scope 3 (tCO ₂ e) ⁽¹⁰⁾	110,089	1,438,000	n/a	305-3
Greenhouse gas (GHG) emissions intensity (tCO ₂ e/t produced) ⁽⁹⁾	0.246	0.260	0.185	305-4
Reduction in GHG emissions associated with sales (tCO ₂ e)	418,375	336,212	384,598	305-5
Air emissions (t)				305-7
NO _x	1,714	1,540	1,465	
SO ₂	354	687	76	
Particles	269	266	236	
Waste				
Total waste generated (t) ⁽¹¹⁾	385,948	395,498	398,001	306-3
Recovered	309,866	345,386	280,579	
Disposed of	76,082	50,112	126,485	
Non-hazardous waste (t)	384,701	394,228	397,439	
Recovered	-	-	280,185	
Disposed of	-	-	126,316	
Hazardous waste (t)	1,247	1,269	563	
Recovered			394	
Disposed of			168	
Recovery rate (%) ⁽¹²⁾	80	87	88	

Social Indicators	2019	2020	2021	GRI
Human resources				
Number of employees (n°)	3,123	3,106	3,021	2.7
Permanent contract	2,973	2,987	2,920	
Men	2,524	2,525	2,459	
Women	449	462	461	
Fixed-term contract	91	69	68	
Men	66	61	56	
Women	25	8	12	
Temporary	59	50	33	
Men	43	29	13	
Women	16	21	20	
Full-time	3,117	3,100	3,015	
Part-time	6	6	6	
Intake rates (%)	6	4	5	401-1
Men	5	3	5	
Women	11	9	10	
<30 years	25	18	24	
30-50 years	5	4	5	
>50 years	0.2	1	1	
Departure Rates (%)	6	5	8	
Men	5	4	8	
Women	8	9	9	
<30 years	9	10	8	
30-50 years	3	3	5	
>50 years	9	7	15	
Health and Safety ⁽¹³⁾				
Number of accidents at work (no.)	103	195	147	403-9
Frequency rate	7.8	8.2	6.6	
Severity rate	458.9	244.0	354.1	
Index of fatalities as a result of work-related injury	0	0	0	403-9
Index of high-consequence work-related injuries (excluding fatalities)	0	0	0.3	
Index of reportable work-related injuries	19.2	20.4	15.1	
Work ability index (%)	-	40.04	39.8	

Social Indicators	2019	2020	2021	GRI
Training and development				
Training hours per Employee (h/employee)	59	40	41	404-1
By gender				
Men	61	44	42	
Women	44	17	37	
By occupational category				
Top Management	18	9	19	
Senior Management	54	22	39	
Middle Management	55	15	14	
Operatives	61	49	47	
Performance assessment (%)	98	97	99	404-3
By gender				
Men	98	97	99	
Women	96	95	99	
By occupational category				
Top Management	96	80	70	
Senior Management	97	99	99	
Middle Management	97	97	99	
Operatives	99	96	99	
Diversity				
Employees by category and gender (%)				405-1
Governance Bodies				
Men	76.9	78.6	76.9	405-1
Women	23.1	21.4	23.1	
Top Management				
Men	88.5	87.3	83.3	
Women	11.5	12.7	16.7	
Senior Management				
Men	64.2	64.2	64.2	
Women	35.8	35.8	35.8	
Middle Management				
Men	81.9	80.9	74.3	
Women	18.1	19.1	25.7	
Administrative ⁽¹⁴⁾				
Men	36.3	33.0	-	

Social Indicators	2019	2020	2021	GRI
Women	63.7	67.0	-	
Operatives				
Men	95.1	95.1	91.0	
Women	4.9	4.9	9.0	
% of women in the organisation	-	15.8	16.4	
Employees by age (%)				405-1
<30 years	-	10.1	9.7	
30-50 years	-	57.7	61.4	
>50 years	-	32.2	28.9	
Ratio of salary of women to men				405-2
Governance Bodies	-	-	0.28	
Top Management	0.77	0.85	0.68	
Senior Management	0.71	0.75	0.75	
Middle Management	0.65	0.62	0.66	
Operatives	0.63	0.67	0.88	

Methodological notes

- (1) Figures revised due to alteration in employee salaries and benefits account.
- (2) Change in reporting methodology for “taxes” to bring it into line with Navigator's “Tax footprint”, moving away from the previous approach centred on cash and corporation tax (IRC). The values considered were the final values stated in IRC Form 22, in 2019 and 2020.
- (3) The 2019 and 2020 Reports stated amounts corresponding to estimates of these fiscal benefits for the respective years, and we now publish the amounts actually deducted in IRC Form 22. However, for 2021, the same procedure applies, and we present an estimate of the expected value of fiscal benefits deductible for that year.
- (4) Value corresponding to entry-level salary, for the organisation as a whole (712 €), as compared to national minimum wage in force in 2021 (665 €).
- (5) The power generated at the solar power plants was included for the first time in 2021.
- (6) Navigator is linking calculation of indicator 302-2 Energy consumption outside the organization to indicator 305-3 Indirect Emissions scope 3. It is not therefore possible to report this indicator for 2021, for the reasons presented for indicator 305-3 (see note 10). Until 2020, the Company considered transport categories upstream and downstream, in the accounts for wood transport and paper transport. This methodology will foreseeably be adjusted to include the other accounts in these categories, thereby consolidating alignment between energy consumed outside the organisation and scope 3 emissions.
- (7) The % of total holdings managed in 2019 is not available, as the figures are not comparable with the subsequent years.

- (8) The reduction in area in 2021 was largely due to the smaller area of properties under management and adjustments to the boundaries of habitat areas.
- (9) The baseline (2018) figures considered for calculating goal 8.1, in the Climate focus areas, is 774,464 t CO₂, corresponding to emissions recorded for ETS purposes. Since 2020, Navigator adopted the methodology of the GHG Protocol, in order to make our inventory of greenhouse gas (GHG) emissions more comprehensive, and this added new categories to those already reported for the ETS. It should be noted that, at the date of this report, the figures for 2021 are pre-ETS verification, and that the figures for 2020 have been updated with validated values, both as regards the 2021 ETS verification, and in the validation under the Pollutant Release and Transfer Register (PRTR) (N₂O and CH₄), as well as with the calculation of data not previously available (fluorinated gases and travel). Additionally, the emissions intensity calculation only refers to scope 1.
- (10) In 2021, Navigator conducted a study to calculate scope 3 GHG emissions more thoroughly, based on data for 2020. A larger number of categories was included in the indicator for energy consumption outside the organisation, which are those that give rise to scope 3 emissions. Up to 2019, only "Wood and paper transport" were included, whilst the methodology now used takes account of 12 categories. In view of the complexity of calculating indicators for energy consumption outside the organisation and scope 3 emissions, the figures for 2021 are not yet available.
- (11) Navigator has changed the reporting methodology for information on waste, in response to the new version of GRI 306 launched in 2020. It should be noted that there is a difference between waste generated and the whole amount of waste sent for recovery and disposal operations, because in 2021 it was recovered waste from 2020 which had been stored. In addition, some of the waste generated in 2021 was temporarily stored on our premises, as permitted under the respective environmental licenses and the new Legal Framework for Waste Management (Decree-Law -102D/2020).
- (12) A total recovery rate of 88% was achieved in 2021. This was calculated using the criteria previously in force, used as the basis for setting the recovery target, which counts waste that is recovered for energy (R01).
- (13) Since 2020, safety indicators have included internal and external workers (service providers).
- (14) Navigator divides the occupational categories in its organisation into four major groups: Top Management, Senior Management, Middle Management and Operatives. In order to align the information reported on human resources with the classification system used in the Company, employees reported in the "Administrative" category will now be included in the other categories.

ANNEX

EUROPEAN TAXONOMY

Regulation (EU) 2020/852 of the European Parliament and the Council, of 18 June 2020, has introduced a new concept, Taxonomy, as a framework for the concept of sustainable investment.

The taxonomy functions as a standardised and mandatory classification system, i.e. a common language, to be used to determine which economic activities are considered "environmentally sustainable" in the European Union.

The taxonomy is based on an industrial classification system, using the Statistical Classification of Economic Activities in the European Community (NACE), complemented by new categories when NACE is insufficiently precise.

For this purpose, the EU published in 2021 a catalogue of activities regarded as eligible for two environmental objectives:

- mitigation of climate change; and
- adaptation to climate change.

For 2022, using data for the financial year of 2021, the EU has imposed a reduced disclosure obligation, requiring disclosure only of taxonomy-eligible economic activities, as well as those not eligible, in terms of turnover, capital expenditure (capex) and operating expenditure (opex).

The obligation to evaluate and disclose whether eligible activities are classified as taxonomy-aligned economic activities, i.e. whether they meet the criteria for consideration as environmentally sustainable activities, will only take effect in 2023, in relation to data for 2022.

In order to assess whether an activity is eligible, it is necessary to verify whether it is described in annexes I and II of Commission Delegated Regulation (EU) 2021/2139, as only these activities are taxonomy-eligible. This list of activities is not definitive, and it may be expected to be revised by the EU, gradually including other activities not contemplated in the original list.

Taxonomy-eligible activities may also be itemised in accordance with the main purpose they pursue:

- Substantial contribution to climate change mitigation (annex I of Commission Delegated Regulation (EU) 2021/2139; Article 10 of Regulation (EU) 2020/852 of the European Parliament and the Council of 18 June 2020);
- Substantial contribution to climate change adaptation (annex II of Commission Delegated Regulation (EU) 2021/2139; Article 11 of Regulation (EU) 2020/852 of the European Parliament and the Council of 18 June 2020).

It is enough for an activity to fall under one of these categories to be considered eligible, although it may fall under both.

Eligible activities

In the course of 2021, Navigator set up an internal taskforce for the European Taxonomy, led by the accounts and financial sector and including members of the Sustainability division, the Environment and Energy division, the Central Technical division and Investor Relations.

According to the analysis of the Group's activities, the following activities were identified as falling within the terms of annexes I and II to Commission Delegated Regulation (UE) 2021/2139:

European Taxonomy Activity	NACE Codes
4.8 – Electricity generation from bioenergy	D35.11
4.20 – Cogeneration of heat/cool and power from bioenergy	D35.11 and D35.30

The Group's activities that fall within the eligible activities correspond essentially to cogeneration activities and electricity generation from bioenergy.

At this stage, the taxonomy lays greatest stress on industries that are more carbon intensive / green energy intensive. This means that pulp and paper production activities are not yet contemplated in annexes I and II of the Delegated Regulation, and cannot therefore be included in the Navigator Group's eligible activities.

Proportion of eligible activities

(unaudited figures)

Amounts in Euro	Total	Taxonomy eligible		Taxonomy non-eligible	
		Amount	%	Amount	%
Turnover	1 595 870 445	113 205 307	7%	1 482 665 138	93%
CAPEX	80 037 908	9 784 774	12%	70 253 134	88%
OPEX	89 263 655	12 811 372	14%	76 452 283	86%

Accounting policies

As established in the taxonomy, the figures reported were calculated in accordance with Navigator's Consolidated Financial Statements for the financial year ended 31 December 2021, which were prepared in conformity with the International Financial Reporting Standards (IFRS), in force at 1 January 2021 and as adopted by the European Union. Because this is the first year the taxonomy is applied, comparative figures are not presented.

The European Taxonomy requires companies to disclose how they avoided duplication in considering economic activities eligible (numerator), in other words, in determining turnover, capital expenditure and operational expenditure. The Navigator Group determined eligible

expenses on the basis of its financial and cost accounting and ensured that cost items were considered only once in calculating indicators.

Turnover

Turnover was based on the same accounting policies applicable to revenue, in accordance with the International Financial Reporting Standards (IFRS), i.e. considering sales and services provided in the course of the Navigator Group's normal business. Total turnover (denominator in calculating the ratio eligible activities) therefore corresponds to the revenue reported in the Consolidated Financial Statements (Note 2.1).

As stated, turnover on eligible activities (numerator) corresponds only to Group activities provided for in annexes I and II of the Delegated Regulation, i.e. cogeneration and electricity generation from bioenergy.

CAPEX

The figure stated as total Capex in the denominator calculation of the eligible activities ratio corresponds to the sum of acquisitions in 2021 of tangible assets, intangible assets and right-of-use assets, as disclosed in nos. 3.2, 3.3 and 3.6 of the Notes to the Navigator's Financial Statements. For the purposes of determining this ratio, additions of intangible assets related to acquisitions of CO₂ licenses were excluded, insofar as these do not correspond effectively to acquisition of licenses, but rather to licenses awarded to the Group, and their classification as intangible assets results from the accounting policy adopted by the Group.

The CAPEX figures classified as eligible correspond essentially to the following investments:

- New biomass boiler at Figueira da Foz Industrial Complex;
- Solar power plants in Setúbal and Figueira da Foz;
- Conversion of the lime kiln at the Setúbal industrial unit, replacing fossil fuel with biomass;
- Investment in the Biomass Power Plants in Aveiro and Setúbal;
- Investments relate the programme for reduction of water use; and
- Investments under the Group's environmental plan.

OPEX

The total OPEX stated in the denominator for calculation of the eligible activities ratio corresponds to the following expenditure determined on the basis of the Consolidated Financial Statements at 31 December 2021, including in Note 2.3 Operating Expenses and Losses:

- Uncapitalised Research and Development expense;
- Industrial cleaning and waste processing expense;
- Expense on renewal/maintenance of buildings and other facilities;
- Maintenance and repair expense;
- Uncapitalised short term lease expense; and
- Other expense directly relating to maintenance of tangible assets or investment properties.

The OPEX figures classified as eligible correspond essentially to the following:

- Expense on research and development of new products and applications associated with forestry and innovative industrial processes, with a view to development and adoption of new technologies in the area of production processes and sustainable products, as well as in the fields of biotechnology, biorefinery and bioproducts, with a view to reducing carbon content incorporated in the Navigator Group's solutions;
- Uncapitalised maintenance expense necessary for operation of cogeneration plants and biomass power plants; and
- Other expense associated with technologies and products aimed at reducing GHG emissions.

In pursuit of the Group's strategy and its sustainability goals, parallel efforts are being made to actively follow the principles inherent in the other Taxonomy pillars, applicable as from the next financial year, namely transition to the circular economy, protection of ecosystems and biodiversity, pollution prevention and control and sustainable use and protection of water and marine resources.



INDEPENDENT LIMITED ASSURANCE REPORT FOR THE NAVIGATOR COMPANY, S.A.

(Free translation from a report originally issued in Portuguese language. In case of doubt the Portuguese version will always prevail.)

Introduction

We were engaged by the Board of Directors of **The Navigator Company, S.A.** (the Entity) to provide limited assurance on whether nothing has come to our attention that causes us to believe that the sustainability information included in the Sustainability Report for the year ended 31 December 2021 has not been prepared, in all material respects, in accordance with the requirements of the GRI Standards and that the Entity has not applied, in the sustainability information included in the Sustainability Report for the year ended 31 December 2021, the GRI Standards.

Responsibilities of Management

Management is responsible for:

- For the preparation of the sustainability information, included in the 2021 Sustainability Report, in accordance with the Global Reporting Initiative Standards (Information);
- For the design, implementation and maintenance of an appropriate information and internal control system to enable the preparation of information that is free from material misstatement, whether due to errors or fraud;
- For the prevention and detection of fraud and errors and for the identification and ensuring that The Navigator Company, S.A. complies with laws and regulations applicable to its activities.
- Ensuring that Management and staff involved with the preparation of the Information are properly trained.

Our responsibilities

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed.

We conducted our engagement in accordance with International Standard on Assurance Engagements other than Audits or Reviews of Historical Financial Information – ISAE 3000 (Revised) issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) and the other standards and technical guidance issued by the Portuguese Institute of Statutory Auditors (Ordem dos Revisores Oficiais de Contas). These Standards require that we plan and perform the engagement to obtain limited assurance about whether nothing has come to our attention that causes us to believe that the sustainability information included in the Sustainability Report for the year ended 31 December 2021 has not been prepared, in all material respects, in accordance with GRI Standards and



that the Entity has not applied, in the sustainability information included in the Sustainability Report for the year ended 31 December 2021, the GRI Standards.

We applied the International Standard on Quality Control 1 and accordingly we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Portuguese Institute of Statutory Auditors (including international independence standards), (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We conducted our engagement in accordance with International Standard on Assurance Engagements other than Audits or Reviews of Historical Financial Information – ISAE 3000 (Revised) issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) and the other standards and technical guidance issued by the Portuguese Institute of Statutory Auditors (Ordem dos Revisores Oficiais de Contas). Our engagement was planned and performed with the purpose of obtaining limited assurance about whether nothing has come to our attention that causes us to believe that the sustainability information included in the Sustainability Report for the year ended 31 December 2021 has not been prepared, in all material respects, in accordance with GRI Standards and that the Entity has not applied, in the sustainability information included in the Sustainability Report for the year ended 31 December 2021, the GRI Standards.

A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of information presented in the 2021 Sustainability Report, and applying analytical and other evidence gathering procedures, as appropriate. These procedures included:

- Interviews with senior management and relevant staff at corporate and operational level concerning sustainability strategy and policies for material issues, and the implementation of these across the business;
- Interviews with relevant staff responsible for preparing the information of the sustainability information for the year ended 31 December 2021;
- Comparing the information presented in the Entity's Sustainability Report for the year ended 31 December 2021 to corresponding information in the relevant underlying sources to determine whether all the relevant information contained in such underlying sources has been included in the Report; and
- Reading the information presented in the Sustainability Report to determine whether it is in line with our overall knowledge of the Entity.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement, and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained has a reasonable assurance engagement been performed.

Conclusion

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report.



We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the sustainability information included in the Sustainability Report for the year ended 31 December 2021 has not been prepared, in all material respects, in accordance with the requirements of the GRI Standards and that the Entity has not applied, in the sustainability information included in the Sustainability Report for the year ended 31 December 2021, the GRI Standards.

Restriction on the use of our report

Our Limited Assurance Report is issued solely for the information and use of the Board of Directors of The Navigator Company, S.A. in connection with the release of the 2021 Sustainability Report and should not be used for any other purpose. We accept or assume no responsibility and deny any liability to any party other than the Entity for our work, for this independent limited assurance report, or for the conclusions we have reached.

28 March 2022

KPMG & Associados -
Sociedade de Revisores Oficiais de Contas, S.A.
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